



A Design Thesis of Kara Braaten

Education Instilling a Brighter Future




Education Instilling a Brighter Future
Design of Green Strategies Beyond Architecture

A Design Thesis Submitted to the
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of North Dakota State University

By

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for the Degree of
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Joan Vorderbruggen, Primary Thesis Advisor

4/8/10

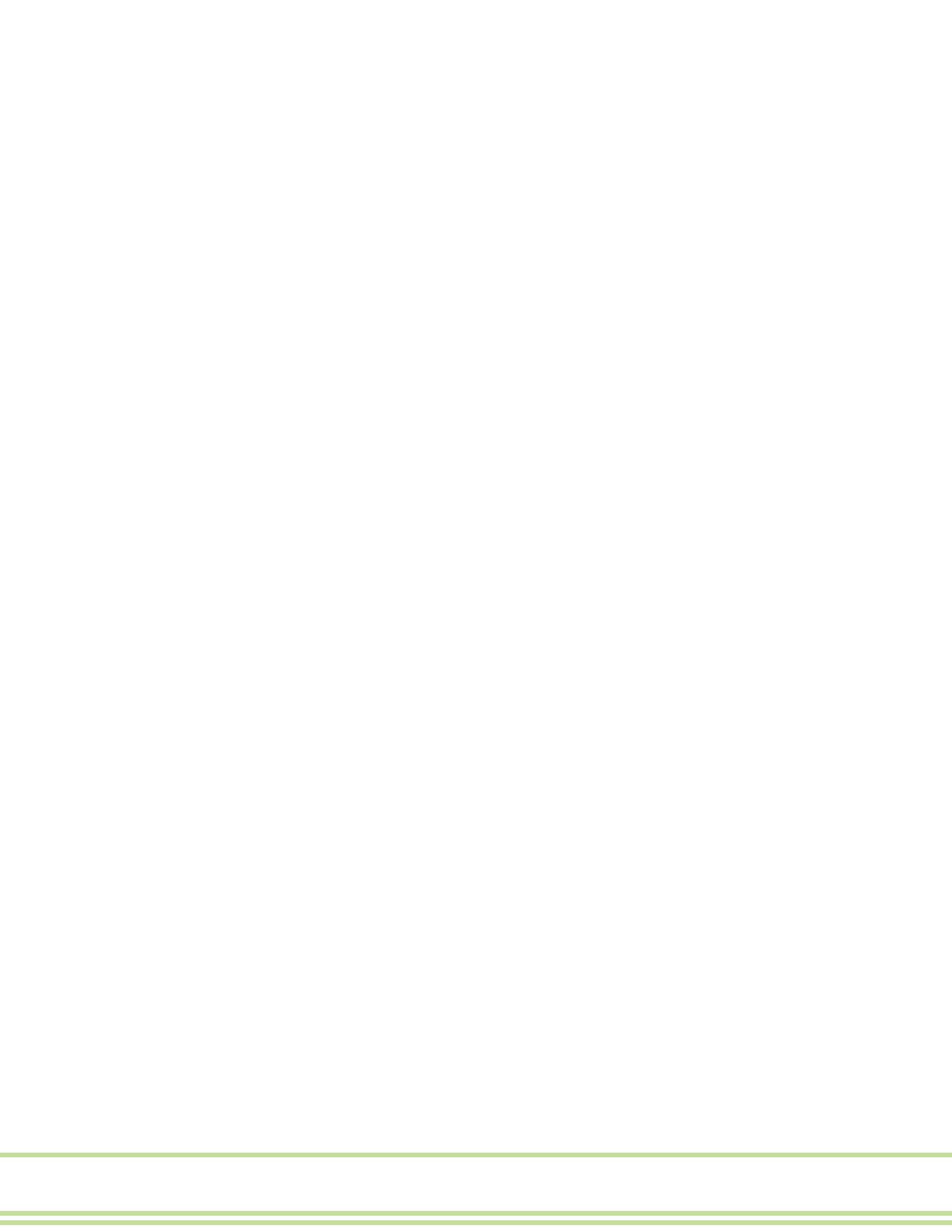
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Mark Barnhouse, Thesis Committee Chair

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May 2010
Fargo, North Dakota



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Project Typology

A 25,000 Sq. Ft. Educational Activity Center providing additional before & after school resources as well as new educational programming throughout the day for elementary age children in the Fargo School District.

Project Location or Context

The intersection of 24th St & 13th Ave South in central Fargo, North Dakota, of the Midwest United States.

Theoretical Premise/Unifying Idea

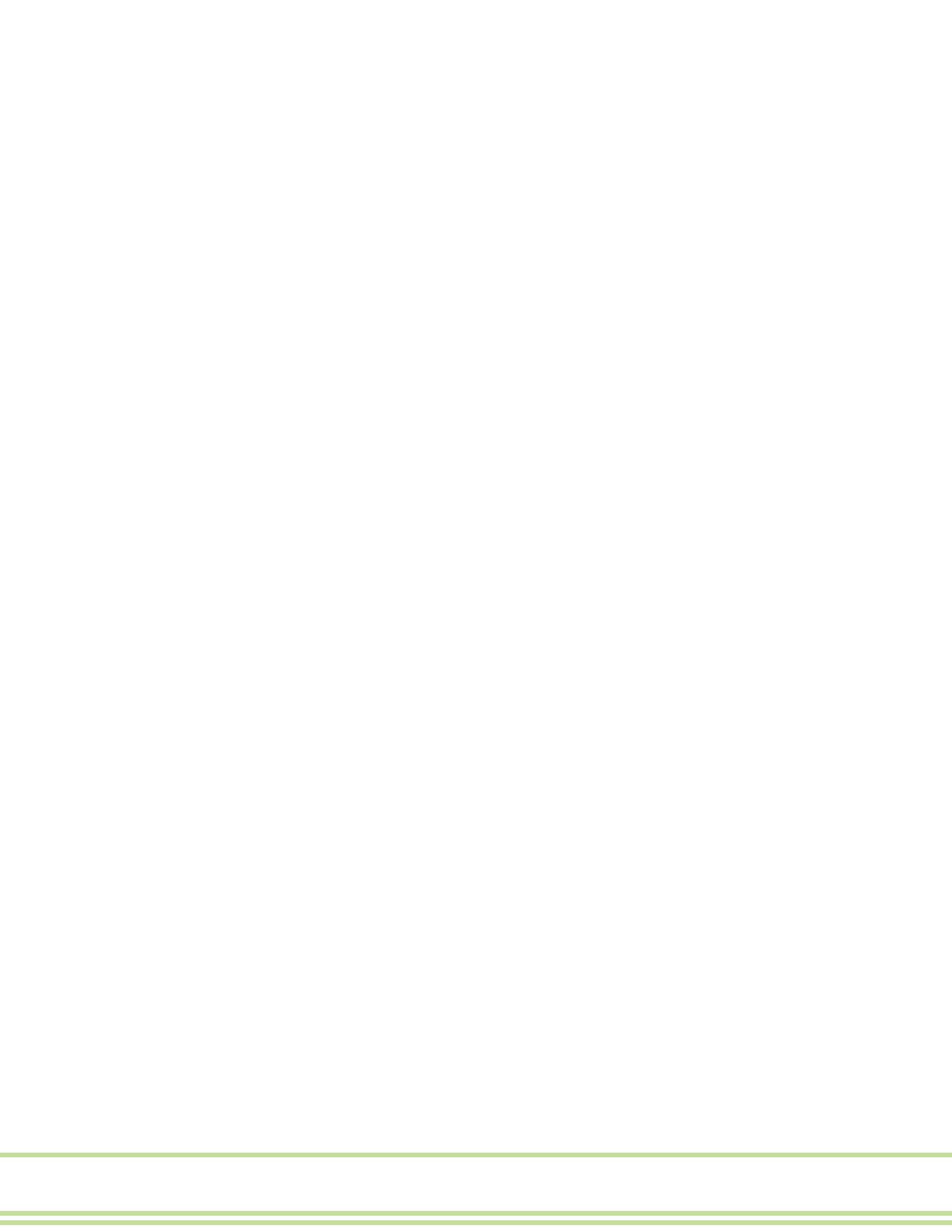
In order to pass along the knowledge of green strategies, we must first foster the education of a younger generation who will become the vessels of this knowledge. Reinforcing these strategies in an educational setting provides the foundation for this knowledge to be reused in the future throughout their daily lives.

Key Words

Green Strategies, Education, Younger Generation, Knowledge, Reinforce, Future



How can architecture foster the education of green strategies to reinforce future responsible ways of life?



“Teaching children about the natural world should be treated as one of the most important events in their lives.”

- Thomas Berry





Project Typology

Educational Activity Center

Theoretical Premise/Unifying Idea

In order to pass along the knowledge of green strategies, we must first foster the education of a younger generation who will become the vessels of this knowledge. Reinforcing these strategies in an educational setting provides the foundation for this knowledge to be reused in the future throughout their daily lives.

Project Justification

We need to educate ourselves on green strategies and change the way we live in order to make a true impact on our surrounding environment. However, in order to sustain this knowledge, it is important to reinforce these green strategies to our younger generations to promote a “greener” way of life.



“Each new year is a surprise to us. We find that we had virtually forgotten the note of each bird, and when we hear it again, it is remembered like a dream, reminding us of a previous state of existence.... The voice of nature is always encouraging.”

- Henry David Thoreau

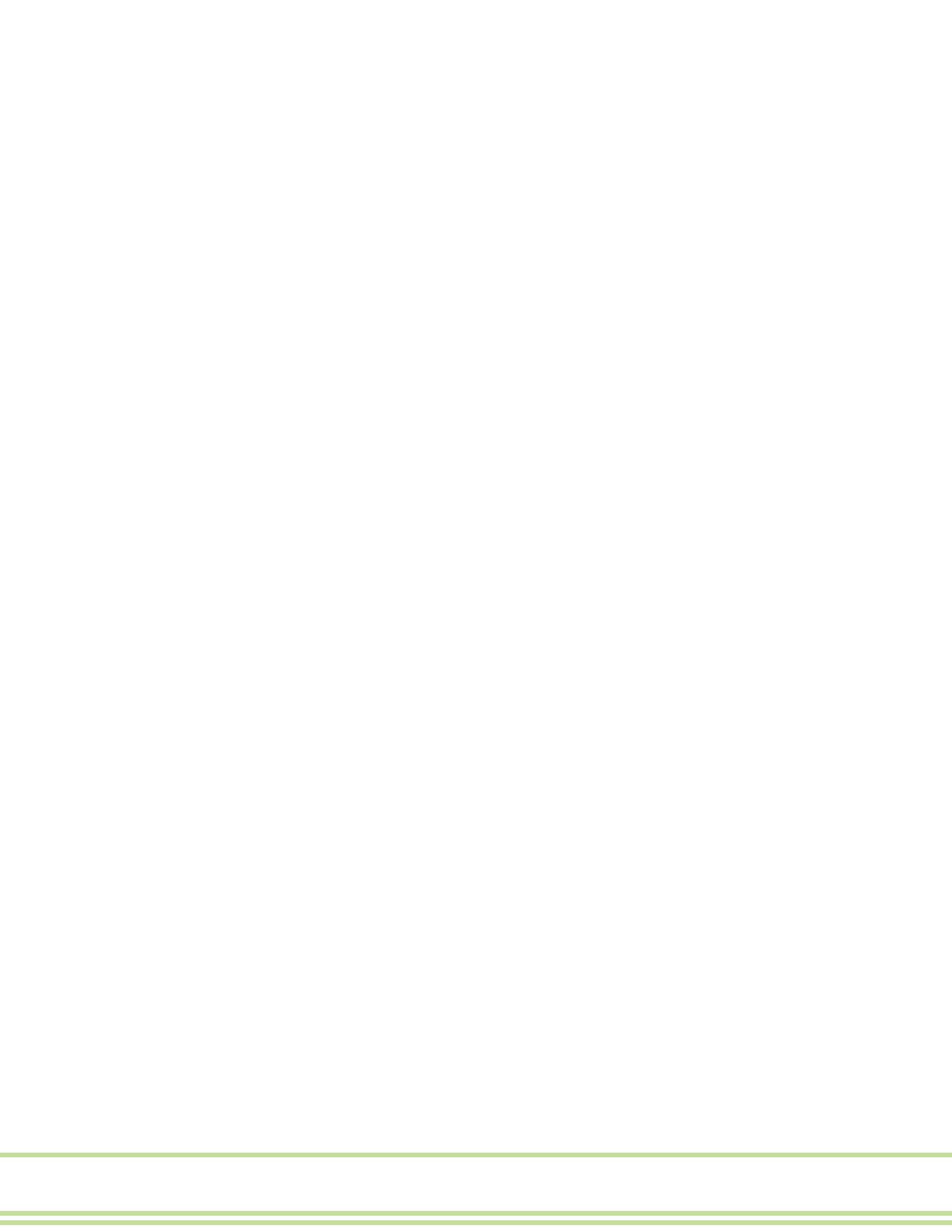




Everyday, we are faced with decisions that ultimately change our futures. Some of these may have little or no affect on our lives while others may drastically determine our overall outcome. Recently, our daily lives have been constantly bombarded with issues concerning the environment and how we will eventually affect it. Is this changing the way we work, commute, plan or basically live? My concern is that I am not sure that the recent social movements are going to continue beyond this environmental and economical valley we have fallen into. It's sad to say but I believe that once we have pulled ourselves out of this hole, people will go back to exactly as they were living before issues crept into their lives.

Although this seems overly concerned, the statement has historical validity to it. Even though the economical strifes seem to be during recent times, they have always been a part of our time-line, just stronger during certain troubled periods. Over 30 years ago, the US was faced with a very similar situation, yet when the immediate concerns were gone, residents went on living their lives just as before. And although we have better knowledge of the concerns now, we need to make sure that all people band together to make a change.

Buildings make up a dramatic factor in our environmental future, making our roles as architects ever more important. Making buildings efficient is good, but it is not the only measure we can take. It is possible for architecture to foster the education of green strategies to reinforce future responsible ways of life. And if this mind-set is learned from an early age, it is conceivable that these lifestyles may continue strong, with little or no variation no matter what social situation we happen to be in. It is this sustaining of knowledge that will reinforce positive ideals and practices that can make a true change to the way we affect our environment for future generations to come.



User

The goal of the educational activity center is to create a space enriched with positive reinforcement for children within an alternative educational environment.

It will be designed to house children between the ages of 5- 12 of all social, cultural, ethnic and economic backgrounds. These children are students of the Fargo Public School System, which would work in conjunction with this facility before, during and after school hours.

Child development professionals and some educational faculty, as well as office and janitorial staff, will be necessary to run the facility.

Client

The city of Fargo and the Fargo Public School District will be the main contributing clients. Considering parents' needs will also be necessary as they will have some of the financial obligations. Involvement with the community will provide a strong connectivity to area families while giving means for individual donations. Moorhead and West Fargo may be involved as well.



Large Activity Space

Functional space, easily adaptable to different situations and program requirements.

Smaller Break-out Spaces

Used in a smaller educational setting, including one-on-one tutoring and individual homework.

Library Resource Center

Provides creative outlet for research and further educational work and learning.

Outdoor Spaces

Environmental discovery spaces to introduce children to the natural world.

Kitchenette / Snack Area

Available to provide snacks to the children as well as a creative space for hands-on learning.

Child & Staff Rest Room Facilities

Separate rest Room facilities for ease and convenience.

Office

Small multifunctional room available for office tasks, record storage and staff meetings.

Additional Spaces

Supply Storage
Janitorial Space
Mechanical & Utility Space



Macro

I chose Fargo, North Dakota because of its quick growth rate and large, ever expanding school district. The educational programming cannot keep up with the student demands. Current educational activity centers are at capacity, and with small day-cares facilities closing, there is an ever pressing need for resources such as this in the Fargo community.

I personally experienced this particular school district and their educational programming at an elementary level. It is this first-hand experience that I feel so passionate about this particular typology within the city of Fargo.

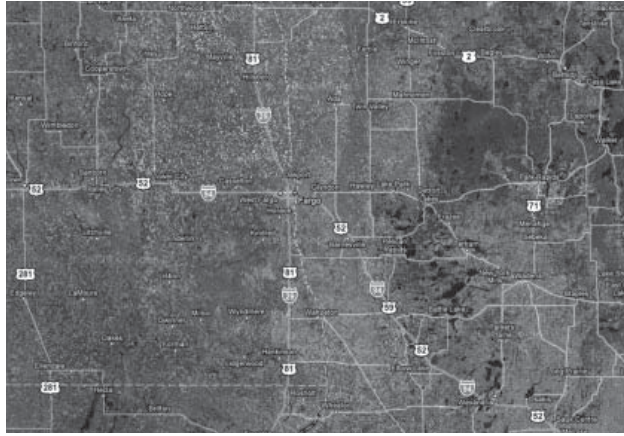
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Micro

The site I chose for a few significant reasons. Currently, the building located on the site is vacant and is badly in need of remodeling. This building would be demolished and existing materials could be reused within the construction of the new facility adding to the need of being environmentally responsible. The site is also located centrally within the Fargo School District, making it a prime location to be reached by all buses in the shortest amount of time. Finally, it is located in an area where commercial meets residential and a revitalization of the area is a necessary upgrade to the city of Fargo.

Macro to Micro Scale

Region
Midwest
North Dakota



City
Fargo
46°52'17"N 96°48'31"W



Site
13th Ave S
23rd St



Building Location
2300 13th Ave S
Fargo, ND 58103



Current Building Area

7500 Sq. Ft.

Site Area

50,000 Sq. Ft.

Site Location

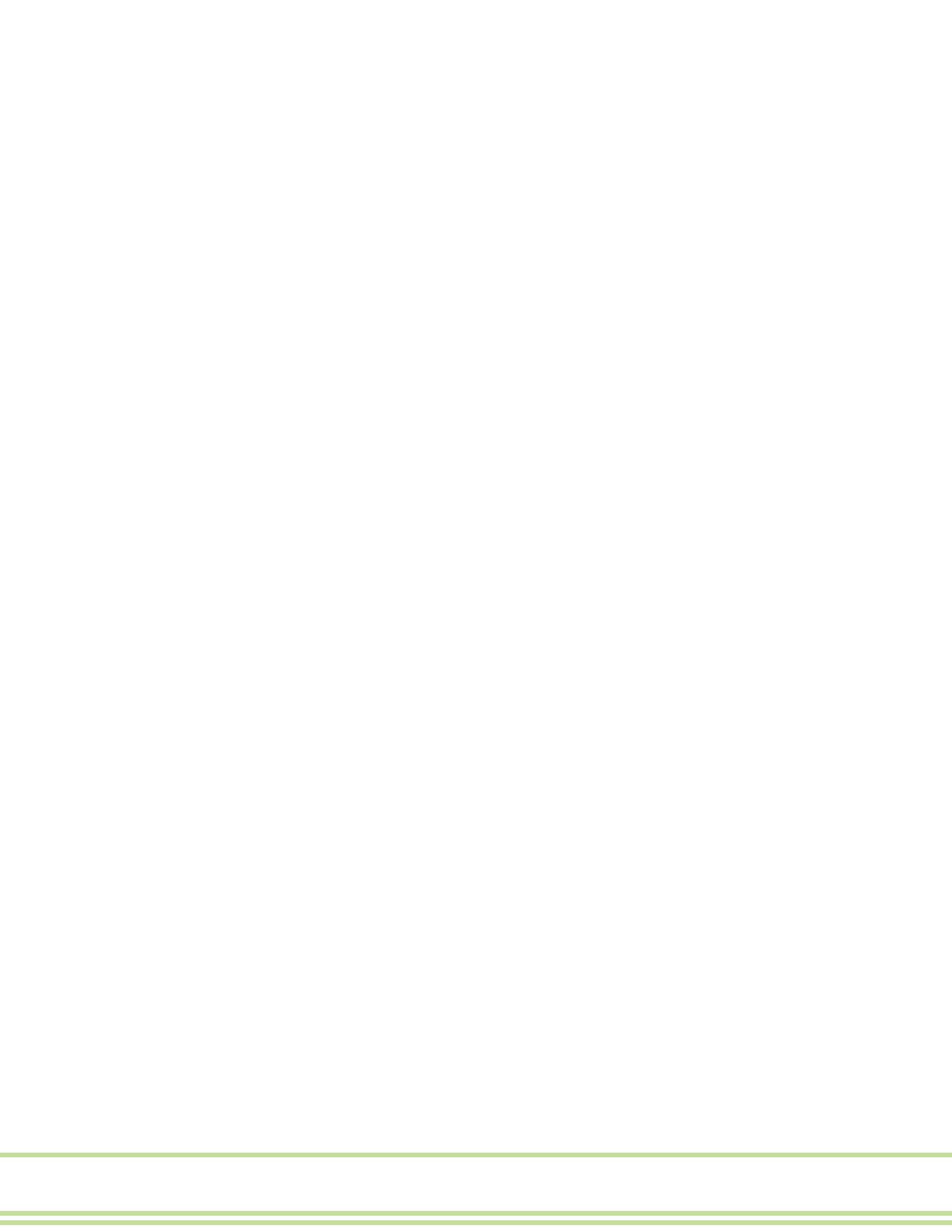
The Site is located at the corner intersection of 13th Ave S and 23rd St.

It is centrally located within the Fargo School District at the corner where commercial meets residential.

The current building on site is vacant and is badly in need of remodel or demolition.

Transportation

Conveniently located near the interstate and most main roads, yet tucked in for safety and security. The public bus route runs on 13th Ave S along the site and has a bus stop & shelter on the north-east corner of the site.



The understanding and comprehension of green strategies must be reinforced to younger generations to ensure a continual growth in its future use. An emphasis will be placed on the architectural design, ensuring that it teaches, reinforces and nurtures its users.

Consideration of green strategies, building techniques, teaching strategies, child development and social influence is necessary to this project emphasis.



Research Direction

Research will be conducted on the Theoretical Premise/Unifying Idea, Project typology, Historical Context, Site Analysis and Programmatic Requirements of the project.

* * *

Design Methodology

Using a Mixed Method, a Quantitative/Qualitative Approach will follow a Concurrent Transformative Strategy. Both quantitative (statistical & scientific) and qualitative (observation & archival search) data will be gathered concurrently. The project emphasis will take priority and serve as a major role in the research process. The integration of the data at several stages in the process of the research will depend on the requirements of the examination of the premises. The analysis, interpretation and reporting will occur throughout the research process and the findings will be presented through both text and graphics.

* * *

Documenting the Design Process

Documentation will be compiled first by physical means, eventually preserving the information digitally. It is to be collected and processed continually during the design phase. The documentation will be presented through a physical model and digital powerpoint, including sketches, project research, design process and final solution.



Fall 2006 - Stephen Wischer

2nd Year

A House for Tea (Fargo, ND)
Rowing Club Boathouse (Minneapolis, MN)
A House for Twins (Fargo, ND)

Spring 2007 - Darryl Booker

Montessori School (Moorhead, MN)
Dance Academy (Fargo, ND)

Fall 2007 - Ronald Ramsay

3rd Year

Hospital & Art Museum (Agincourt*, IA)
Shaker Barn Concert Hall (New Lebanon, NY)

Spring 2008 - Steve Martins

Children's Museum (Fargo, ND)
Mixed Use Facility (Fargo, ND)

Fall 2008 - Darryl Booker

4th Year

High Rise (San Francisco, CA)

Spring 2009 - Stephen Wischer

Train Station (Barcelona, Spain)

Fall 2009 - Frank Kratky

5th Year

River Keepers Living Lab (Fargo, ND)

* Fictional City



“Our children no longer learn how to read the great Book of Nature from their own direct experience or how to interact creatively with the seasonal transformations of the planet. They seldom learn where their water comes from or where it goes. We no longer coordinate our human celebration with the great liturgy of the heavens.”

- Wendell Berry



“Architecture is not simply concerned with the technical details of planning and construction but, most important, with the relations between the envisioned curriculum and the space in which it is put into practice. The architect plays a crucial role in the consideration of the complex relations between a large institution and its neighborhood, of the careful responses in scale and spatial layout to the needs of teachers and children, of the very materials out of which a good learning environment is built...the architect can serve as catalyst and collaborator, conscience and coordinator.”

- Anthony Vidler

Theoretical Premise/Unifying Idea

In order to pass along the knowledge of green strategies, we must first foster the education of a younger generation who will become the vessels of this knowledge. Reinforcing these strategies in an educational setting provides the foundation for this knowledge to be reused in the future throughout their daily lives.

Social Interaction

“Play” is a useful tool for education and the kind of social interaction necessary to a child’s development. Skills must be nurtured from a young age in order to continue spiritual, intellectual, creative, social and emotional growth. Insights into the world, environment and the nature of people in general are derived from social interaction. Our very spirits are enhanced by our experiences as children and influence the adults we will one day grow to be.

While activity is important to a child, it is not generically defined. A child’s particular personality traits can affect the types of interactions that will relate the best to their understanding and development. External influences, such as the environment, adults, other children and personal objects are impacted by a child’s cultural impact.

There are many things to consider while designing an educational environment for play. Here are just a few suggestions...

- Time to Play
- Other Children and Adults
- Play Environment Personality
- Cultural Attitudes Toward Play
- Physical Environment

The advantage of play as children is the opportunity to act out dangerous actions or emotions without true consequences. It

prepares us for the “real world” much like a practice test will try to prepare us for the final exam. This play will one day hopefully lead to experiential knowledge.

Social Interaction is a key component in my Theoretical Premise/Unifying Idea. If we didn't experience our surroundings, we could never learn from the buildings we learn, work, play and live in. Green strategies can be reinforced in an educational and “fun” setting, which will create a greater impact on a child.

Psychology

We've all heard the debate between nature and nurture. Which one is truly the dominating influence on who we become in the future? Many behavioral theorists have discussed this very question over and over again. They've researched and done studies, but somehow, a conclusive answer is never found.

However, within these studies, there is conclusive evidence that there is a relation to how we are nurtured and who we will one day become. The people we interact with, the experiences we have, and even our surroundings, influence our personalities and understanding of the world. Although some things are thought to be “inherent,” some actions need to be taught in order to be followed.

For example, we are taught at a young age that we need to brush our teeth everyday. When we're 4 years old, we don't really understand why this is necessary, other than our parents tell us to do so. So we continue this action, eventually learning the benefits of such habits, which reinforces the reasoning behind it.

Knowledge of green strategies could work in the very same way if they are nurtured at an early age. A child experiences this way of living and just knows it to be true based on

how they are taught. At some point, they will also learn the positive affects of their actions, reinforcing the paths they have chosen to take in their lives.

Environmental Effects

Although my primary goal is to teach a younger generation about the positive effects of green strategies through architecture, and how they can retroactively help protect our Earth, an environmentally efficient building will have other positive affects that will help with the education of the child as well.

An environmentally friendly building can be a healthy one. In a time where any place with multiple children is a petri dish of germs, we want our buildings to be healthy for our children. Sustainable buildings tend to have cleaner air, providing protection against most airborne diseases that are spread around educational facilities.

It is proven that buildings with more light improve productivity and learning. In an educational facility, this is the best case situation. Exposure to our natural environment and the natural light that comes along with it, can improve the way we learn. Plus, more light gives a happier demeanor to all.

This shows that not only can education promote a healthy environment, but a healthy environment can promote education. They feed off each other, building up our future generations and making them stronger than ever before.

Topographical Design

Design of educational facilities has become a conventional one. Programs are built off of one another because of old fashioned ideals that have proven to “work” in the past. Although sizes and scales are changing, there is still not enough variety within our plans and

designs.

Although there is evidence to support certain decisions made toward the current educational design plan, our world and society is ever changing and we must change with it. We need to constantly be looking to new ideas that will work with our younger generations, who deserve more than we had.

These are just a few of the Interlocking Arguments to explain the creative stance of “something from nothing”...

- Ethical Argument: calls for making the best creative use of resources in an era of reduced funding for public schools.
- Entrepreneurial Argument: calls for maximizing the pragmatic value of design by creating value in new construction and renovation.
- Curricular Argument: calls for design as a vehicle for educational reform and community-orientated change for those who are willing to challenge conventions.

I propose creating the experiences necessary to a child's development and then experiencing them ourselves. We must continue to put our minds in the head of a child if we wish to learn for the future.

Summary

I chose to research the key areas of my typology and Theoretical Premise/Unifying Idea individually. It was my hope that in researching each of these ideas, I would stumble along the connecting factors that I already believed to be apparent.

While researching green strategies, social factors, child development, educational strategies, psychology, environmental effects, educational choices and the natural world in relation to my typology, I was pleasantly surprised.

Social interaction proved that experiences can lead to the development of a child. These experiences could be environmental ones learned inherently by a child while utilizing an educational facility. I believe that these interactions would promote a healthy lifestyle in a child that would grow with them and be carried out as an adult.

Psychology, based on the nature vs. nurture debate, has furthered this premise. Nurturing a child's habits early on will reinforce those positive actions. It is this reinforcement that I spoke of within my Theoretical Premise / Unifying Idea. Younger generations will have the knowledge and will be encouraged to use that knowledge in a constructive way, helping the future environment.

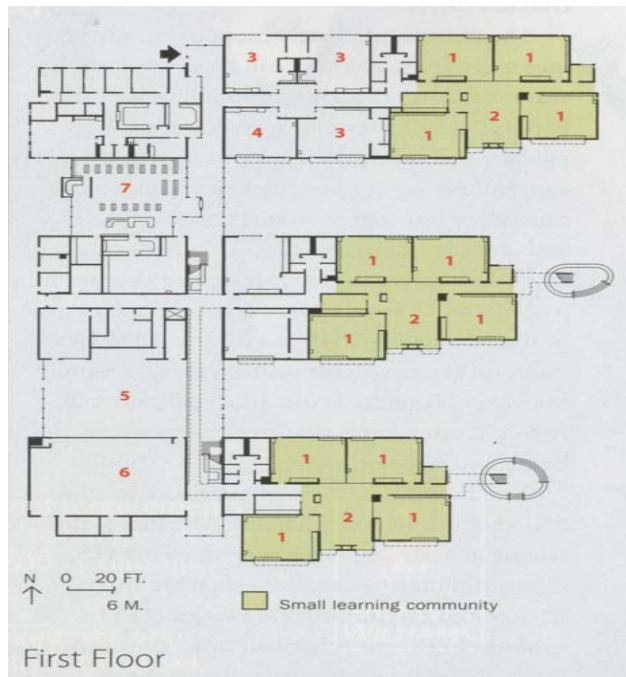
Environmental effects have proven to be just as beneficial to education as education is beneficial to the environment. A double reinforced positive reaction further promotes the idea of education toward the encouragement of a better environment.

The topographical design showed how the educational environment is changing and we need to change with it. Our designs must move onto the future and plan for the ever changing children. No generation is the same and they are the proof of that.

Overall, I believe that an education based on the rich knowledge of environmental strategies and “a reintroduction to the natural world and its cycles & systems” will inform our futures. “By making friends with nature, we become more intimately connected and want to protect it.” Nothing is healthier than when a program bringing the environment together with education works in a positive way.

Theoretical Premise/Unifying Idea

In order to pass along the knowledge of green strategies, we must first foster the education of a younger generation who will become the vessels of this knowledge. Reinforcing these strategies in an educational setting provides the foundation for this knowledge to be reused in the future throughout their daily lives.



Floor Plan



Interior Perspective of Library & Corridor



Exterior Perspective

Rosa Parks Elementary

Redmond, Washington

Characteristics

A small school by size, Rosa Parks Elementary is able to provide the same amenities by creating a new learning community. Instead of long corridors of lined up single classrooms, spaces are grouped into clusters that create connectivity and interaction that wouldn't be possible otherwise.

Program Elements

Classrooms
Activity Area
Kindergarten Spaces
Resource Room
Commons
Gymnasium
Library

Project Details

With its environmental focus and unique approach to educational design, this project is similar to that of the other two case studies. Also like the others, it brings spaces together in non-traditional ways to adapt to a new program design.

This is definitely the smallest project, teaching children in a less rigid fashion, much like that of an educational activity center.

Its response to the site is less inherent. However, it does choose to use a more stacked & clustered floor plan, using less ground resources to provide the same amount of circulation space.

The main conceptual underpinning of this particular project is the idea of grouping. Rather than having long corridors with a

stretched out floor plan, they chose to cut up this traditional layout and essentially stack the spaces, to work more intricately together. This gives the spaces verticality, which is becoming more and more essential in today's environments. This also adds to the idea of clustering spaces, providing separation yet connection between varying activities throughout the day.

Analysis

By giving the building mass more height, vertical structure was essential to the framing and technicality of the building. Light seems to glow from within, giving an airy feeling while inside. I believe that this is a great way to provide enjoyment children during indoor activities when it's sunny outside.

The design does come from a repetitive nature, using strong linear elements to sporadically repeat throughout the spaces. This creates order and practicality, but also flexibility to randomize this order when necessary for space planning issues.

This case study is closest in typology to the one I am proposing. It is a flexible building that allows facilitators to break up large groups of children for various activities, yet bring them back together to reinforce interaction and play among them. It has also proven a very practical reasoning to green strategies beyond providing a future healthy environment.

Conclusion

This case provides a revolving foundation to the focus that is constantly renewing itself of the Theoretical Premise / Unifying Idea. It shows how an environmentally friendly facility can not only be a healthy environment to educate our youth, but also our youth will be educated by the building on how to make the outside as healthy as their indoor

environment. This is the way we should be affected by architecture.

The most influential change to my Theoretical Premise / Unifying Idea was the movement to a new approach to the problem statement. Although I do believe that benefits such as lower bills and cleaner indoor environment is a positive reinforcement to green strategies, I feel as though promotion of these could be brought about from a much stronger source. Children learn inherently, often mimicking us, even when we don't realize it. And by creating a facility where the education they are provided with is enhanced by these green strategies, they will be influenced in a much more powerful way.



Exterior Perspective



Exterior Perspective



Exterior Elevation

Rosa Parks School and Boys & Girls Club

Portland, Oregon

67,000 Sq. Ft.

Characteristics

A school & activity center built in the recently redeveloped New Columbia subsidized housing complex with a dual purpose of educating and creating a community for its children. This facility utilizes a shared organization to produce a multifunctional environment that is healthy physically, socially, mentally and environmentally (LEED Gold Certification).

Program Elements

General & Collaborative Classrooms

Media Center

Literacy Center

Family Resource Center

Administration Offices

Commons

Kitchen

Art Spaces

Technology Spaces

Music Spaces

Multipurpose Spaces

Media Spaces

Learning Center

Teen Lounge

Project Details

Like the other two projects, this too has been strongly influenced by green strategies and has a unique opportunity to influence children in a new and interesting way.

This, however, is the first case study to have an actual educational activity center within the facility. This shows any variations that may be



Floor Plan



Interior Perspective of Front Entry



Interior Perspective of Children's Activity Center

necessary of such a facility in contrast with a traditional educational setting.

It responds to the site in a social way by providing this before & after school resource to children and their families of the community.

This strong community focus definitely became the strongest conceptual underpinning. Providing for the community meant designing a complete educational resource that was economically, environmentally and socially responsible.

Analysis

Natural and artificial light were the main design focuses that contributed to their LEED Gold Certification standard. The architects wanted the spaces to feel open yet connected through an interesting use of geometric shapes and angles. Circulation is designed effectively, sharing many of the core spaces, making the building ultra efficient.

The design focuses on two separate identities, coming together to make the individual units become one functioning whole.

The community response is truly shown throughout this project. A facility such as this is not only an educational setting for the child but also for the families who depend on them. They will hopefully be just as influenced as the children utilizing them everyday.

Conclusion

This provides a stronger understanding of the typology and its connection to education.

I reconsidered altering my typology to be incorporated with an existing school setting. However, with the extensive school system I am working with, the collaboration with only one school did not seem practical.



Solar Window Screening Detail



Exterior Site Plan



Exterior Elevation

Fossil Ridge High School

Fort Collins, Colorado

300,000 Sq. Ft.

Characteristics

This large educational facility has pioneered a new way of learning with an organization that was once thought to be too spread out and unfunctional. Instead of designing a traditional layout, the architects chose to break up various educational activities into separate learning communities that are not segregated but integrated for a more connected learning process. Green design has also been integrated into the design through innovative ways, making these environmentally friendly solutions obvious to the students, becoming a teaching tool as well.

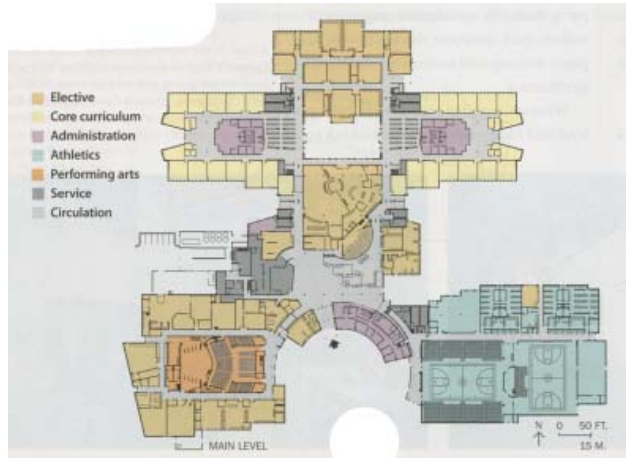
Program Elements

Core Curriculum
Administration Offices
Athletics Facilities
Performing Arts Spaces
Service & Circulation
Parking
Public Park

Project Details

Much like the other two case studies, this facility was based on the idea of community learning. Although individual classrooms are still utilized, a connectivity has been created between them. LEED and sustainable building is also very much a strong part of the design.

The scale of this facility is much larger than the other two. It is meant for a more extensive student population of 1,800. It is also meant for High School students, making



Floor Plan



Interior Perspective of Library



Interior Perspective of Gathering Space

the demographic slightly higher than what I am aiming for.

The site is very much integrated, working with the natural sloping aspects as a part of the landscaping and considering the needs of the community by integrating a public park. The design of the facility creates large pockets of outdoor gathering space and multiple opportunities for variety.

The most influential conceptual underpinning is the consideration of form affecting education. It is this building's layout and integral details that make this a learning experience.

Analysis

Revealed structure vs. massing gives this building a nice dimension of light vs. shadow. This, along with its geometry, although not typical, gives it a unique circulation as well.

One truly interesting aspect is how the facility utilizes most contrasting design elements. For instance, it's both repetitive but unique, and has both additive and subtractive qualities.

Although this case study has a typology that is much more expansive than I justified for my particular project, it has some validating design details that strongly tie to my problem statement.

Conclusion

This is a great example speaking to the reception of a younger generation to green strategies. This project has proven that students will respond to these inherent teaching techniques and possibly carry them on into their lives in the future.

This case study didn't change my Theoretical Premise/Unifying Idea but reaffirmed the concepts I had concluded. I will definitely look to this project for further design inspiration.

Case Study Summary

The case study series focused primarily on educational facilities that provide a new educational experience through influential sustaining environments. These were the common threads that tied them to my proposed project, but they also had some unique individual aspects that gave an interesting outlook to their design choices. Attention was given to volume, strong detail gestures and an overall sense of community, which all give insight to many more possibilities.

In addition to these case studies, I researched and visited the two primary educational activity centers currently serving the children of Fargo, Moorhead and West Fargo. The Fargo School District has a similar typological service in place through the Fargo Youth Commission and the YMCA. These programs provide before & after school resources to children whose parents are still working during the normal work day. The programs vary throughout the different schools of the city, some more involved than others. Some of the programs take place at the actual schools whereas others need to bus children to the larger facility. Each one has their strengths and weaknesses; if collaborated, they could become even stronger. And although these facilities provide a lot to this community's youth and their families, there are always more positive changes that can be made. Additionally, the need for more facilities is still necessary because both programs are currently at capacity. Our growing school system and decrease in private day-care facilities will continue to increase this need in the future.

I believe that these case studies provided further validation that a typological setting such as this could provide an education beyond what is "taught," sustaining a stronger focus to the environment and enhancing the lives of our youth overall.

Conclusion

I have learned more about the ways children are influenced and how they carry their knowledge outside of the classroom. Many possible options must be considered before proceeding onward, showing there will always be questions that need to be answered.

One consideration that needs to be made is the integration with the already existing educational learning facilities serving the Fargo community. Although I have determined that there is a demand for more facilities to this ever growing community, integration with the other two facilities is still key to a successful development of this project. Social, economical and environmental concerns will best be suited if we all work together in a cohesive manner.

The conceptual ideas have proven to truly affect the outcome of a particular project. My theoretical premise/unifying idea promotes an environmental underpinning idea that will nurture and educate our youth in a hands-on way, making the transition from learning to doing much easier and more natural.

Based on different approaches to the site, I feel that my best attempt is to bring the outside within, in so doing, bringing the environment within as well. The cultural, political and social context has a major influence on the outcome of this project. A community is made up of all of these things and is necessary to the support of a project such as this.

The positive influence I want to create will best be achieved through functional and spatial relationships of space. I believe that each new generation of children is smarter than the last. They understand when things work and when they don't. Giving them a facility that works in the best possible way will reinforce the ideas behind them, educating the child even further.

“The relationship between the classroom and the patios is not achieved using windows. The large prefabricated concrete pieces and laminated glass enclosure allow for a great deal of transparency while at the same time creating a fair amount of privacy due to the dimensions of the crosspieces. By not having the windows, there is not element of scale from which the children could compare themselves.”

- Xavier Vendrell



Historical Context

The need of my particular typology has been determined by our current societal and economical demands. Throughout hundreds of years past, a parent was thought to be the sole nurturer of a child. When a child was brought into this world, there would always be a figure there to nurture and take care of the child until he or she was able to take care of themselves.

Before formal education became what it is today, most skills were taught at home by the parent. This was how it was done for thousands of years and is still continued by some families today. Within the last 100 years, our society defined that one parent, often the wife, was expected to stay at home to rear the child. However, today we have evolved into a society where it is often necessary, for economical reasons, for both parents to be away from home outside of the educational time period.

There came a day when both mother and father worked outside of the home, leaving the child in necessary need of alternative resources. Nannies or Day-cares could be utilized but are often expensive and don't provide the types of interactions that are necessary to a child's development.

Schools eventually began providing the adult supervision necessary so that children could stay in the building until a parent could pick them up after work. However, having experienced this first-hand, I found that this again provided little positive reinforcement to the child's development and education.

Today, educational activity centers are available, but at a cost. These facilities are far better than what was available 20 years ago but can still always improve. Activity centers outside of the school setting can still be educational and teach values beyond what may be taught in social studies.

This is the opportunity to incorporate “real life” skills into our children’s education, teaching them an even stronger foundation of knowledge. There are some good examples of this type of center, but the truly great ones are rare.

Similar Projects

Within the community of Fergus Falls, Minnesota, lies an educational activity center revolved around the current educational system, while providing experience through the environment. This facility is called the Prairie Wetlands Learning Center (PWLC).

The Prairie Wetlands Learning Center is the first residential educational center operated by the US Fish & Wildlife Service. Planning began for this facility in 1989 when a local grass roots group began lobbying and fundraising for a center. Environmental education programs began in 1994, which led to further funding by friends & family of students. They were able to open the new Visitor Center & Dormitory in 1998, and a new educational wing just recently opened in 2008. Success of this facility is significantly due to the strong support of the Fergus Falls School System.

The PWLC is a community based facility with flexible classroom spaces that can be shared and used for many different activities. They also use unique spaces, such as an outdoor theater, to provide opportunities for creativity. Even before the current building was finalized, the program utilized the site as a backdrop for their educational activities. Even now, their spaces try to bring the environment within, moving the childrens’ attention back onto the environment.

At one time, this program was a dream to a local teacher in an elementary school. He started the program, which was nothing more than occasional field trips to the site for his

science class. Today, this program has been fully integrated into the school programming. 4th & 5th grade students now have the opportunity to use this facility daily through a rotational schedule. Students spend parts of their day at the facility, to be taught about the same science relating to the real world environment that I was taught more than 15 years ago in a field. These are the advances that can be achieved through collaboration and innovation in design.



Social Trends and Societal Developments

These changes have been brought about by certain social trends and societal developments. An obvious social trend that has brought together the environment and architecture is a program called LEED (Leadership in Energy and Environmental Design).

The US Green Building Council (USGBC) began in 1993 to provide vital environmental information and their relation to building strategies. They quickly realized that a new program could be created to regulate and promote responsible green building strategies. The first LEED pilot program began in 1998 and was quickly revised to a more adaptive program in 2000. Since then, this program has continually reinforced our increasing need to provide environmentally friendly building strategies.

LEED Rating System:
Certified: 40-49 points
Silver: 50-59 points
Gold: 60-79 points
Platinum: 80+ points

LEED has been at the forefront of new and inventive building strategies that will reduce carbon emissions within one of the most damaging fields of our society. Although this has been a strong step in the right direction, if we are to prevent further damage to the environment and hopefully reverse its effects, we need to do so much more.

Probably one of the strongest parts of the LEED program is its ability to teach people of all areas of life about these environmental concerns. They have proven that these concerns do have validity and show us how we can fix these issues for future generations.

Even though the USGBC has began this

process, it is up to us to continue it. This is why our buildings not only need to be sustainable but teach sustainable living. We have been a large part of the problem and now are an even larger part of the solution, but we can do so much more. By getting people involved on an individual basis, all of our actions just might address the affects of Global Warming.

Physical and Social Context

This outlook completely changes our societal actions and consequences of our daily lives. We need to be constantly considering how what we do will affect those around us and the future generations to come.

The physical environment is at the core of this entire discussion. It is our chance to experience the world again, as it once was before we chose to ignore it. It must now be the focus.

We must learn from the environment again. Our children must experience it for the first time. It must be protected for future generations.

This is not possible without the interaction of our entire society. Support is the one action that has always made the difference between an individual's struggle and transcendence. Working with the community, we can reinforce these ideals and integrate them into our lifestyles.

The final result will produce an outcome that ultimately gives back to that same society that supported the goals originally. Our physical environment needs our social one and our social environment wouldn't ultimately survive with the environmental one.

This shows how we are not only educating for those future generations, but we are in fact helping ourselves. Putting ourselves out there teaches us to promote these same

responsibilities that we must live up to.

History has shown us that our actions come with consequences. But it is our chance now to fix those problems we've created by working together as a whole community.

Academic Project Goals

This project should dive deeply into any and all theoretical, physical, environmental, social, economical, psychological, material, typological, historical, anthropological, structural and formal conditions that can and do affect the architecture of our world today. I hope that this is better than anything I've ever done before.

I would like to incorporate some standards that must be accomplished to my satisfaction. This project will be LEED Certified, following the professional standards just as if it were a real project. It should be detailed to a point where I could hand it off and it could truly be built. Finally, I want this to be a project that I will stand behind and that is ethically responsible.

* * *

Professional Project Goals

This project will be treated as a real project proposal and should be considered as if it were to really be built. If I consciously keep this mind-set while designing the project, hopefully, it will maintain the standards that are necessary of a real life architectural project.

I take inspiration from the a common saying: "Rome wasn't built in a day..." Architecture doesn't develop overnight. It is the long process that develops what could be an average project into an exceptional one. I need to provide this same dedication that would be required of any true architect.

Not only is this a chance for me to strive academically, this is a way for me to learn before I enter the "real world." This is a time to consider every possible solution, to stretch my creativity beyond what was thought to be possible and to prove what

I can do. I want this project to show the capabilities I have gained throughout my social, academic and professional career. This project must prove why architecture is considered a true profession, but most importantly, why I should be an architect.

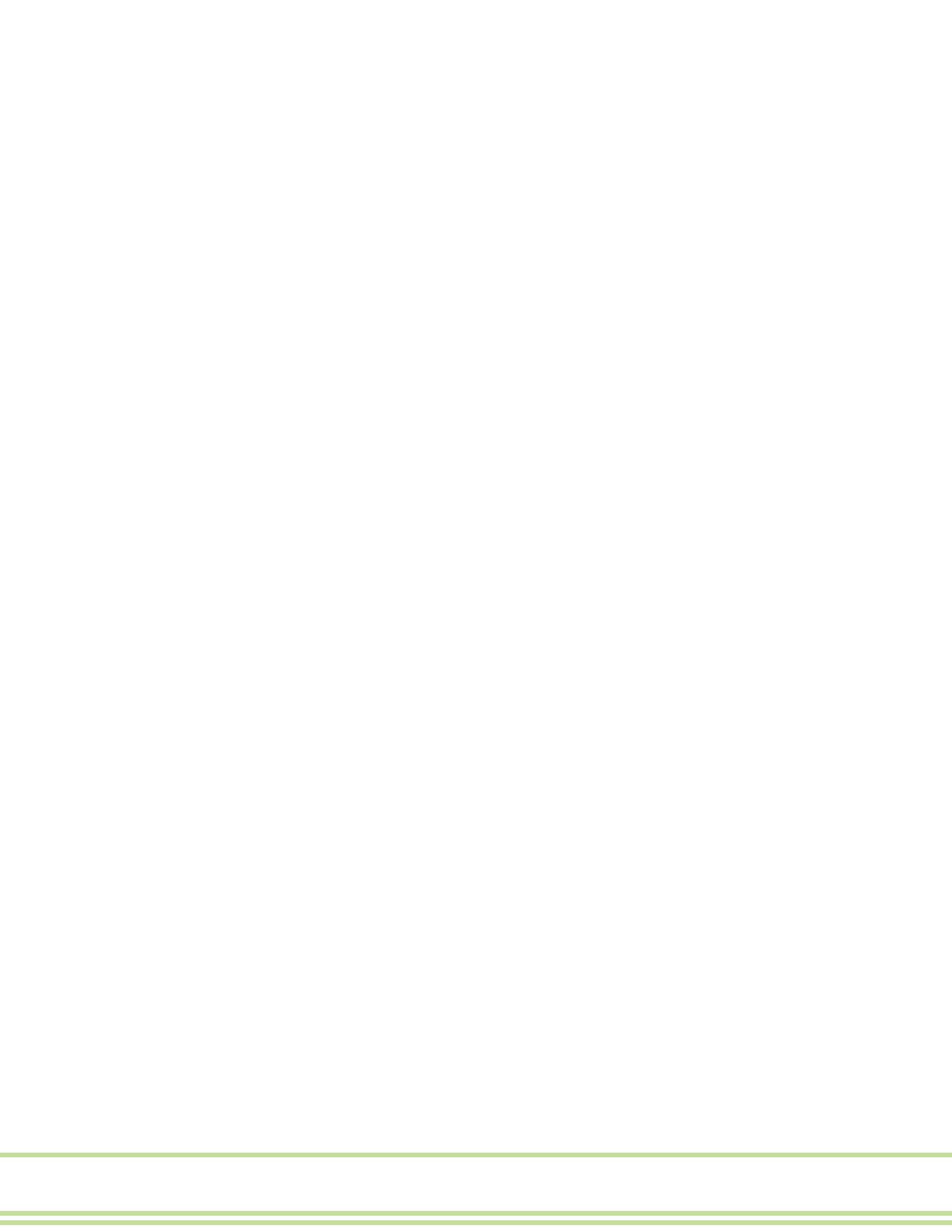
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Personal Project Goals

This project is the chance to learn more about myself and my skills as a designer. It's also a chance to find my weaknesses and improve on them. This is also my opportunity to have some fun. I should definitely enjoy this experience because it's the last of my educational career. It will be a lot of hard work and late nights, but at the end of it all, I should really be happy with what I put out for all to see.

Above all, my goal is to learn things that I didn't know about before. I want to stretch my mind and reach even farther into those possibilities. I see this as an architect's responsibility. With such a diverse field, we must want to always be expanding our horizons. Our jobs are ever growing, related to any field out in the world today. We should want to know about society, families, geography, law, economics, health-care, politics, language, archeology, meteorology, science, technology, animals and the environment. Before I chose the profession of architecture, I wanted to be a Social Worker, Nurse, Lawyer, Psychologist, Vet, Interior Designer and Teacher. One day I realized that if I really wanted to be involved with all of my diverse interests, architecture would be the way to go.

So personally, I hope I can bring forth the same dedication and love that I have tried to bring to all of my academic years. I want to know that at the end of the project, this was the very best work of my life...so far!



“Here is this vast, savage, howling mother of ours, Nature, Lying all around, with such beauty, and such affection for her children, as the leopard; and yet we are so early weaned from her breast to society, to that culture which is exclusively an interaction from man on man.”

- Henry David Thoreau



Views / Vistas

The geometric relationship of the existing site and its surroundings, imitate much of that structured throughout the city of Fargo. Fargo is set up on a grid-like system, with very little variation within it. The structures mimic this form with strong rectangular shapes, made up of mostly concrete or stone, making them easy to line up next to each other. However, there is very little interaction between and practically no shared relationships. To the south-east, views of the residential neighborhoods with winding roads and vegetation begin to be seen, giving a more organic feeling to the site and the adjacent structures. The topography of the site has little to no variation because most of it has been excavated and paved for commercial use. Proper drainage routes have already been dealt with and should not cause any problems. Most of the adjacent buildings are commercial one-story structures, making them around 20 feet in height, so there is not an issue with blocking of views. Shadow will also pose no problem with an abundance of sunlight available to the sight. Keeping the building cool during the summer will have a high consideration, but at least this will help keep the building warmer throughout the rest of the year.

Surrounding Features

The adjacent properties currently in use are mostly fast-food chains. There is a Blockbuster Video Store and Kum & Go Gas Station nearby. However, other retail is scarce in this area, making it lower in density.

Light Quality

Light is in great abundance at the site, with no obstructions, making the color, temperature and intensity all flexible to the development of the project. This is very positive because ample light is necessary to any program.

Wind

Wind will pose issues in the future design of the project due to the fact that there really is no protection from the strong northern gusts. Being that it is an extremely flat, urban site, protection from, and use of, the wind during the different seasonal periods will play a large role in the project and site development.

Human Characteristics

The site has been completely intervened by human use for commercial and residential purposes. Therefore, the landscape is almost entirely paved in exception of one small sodded piece near the south side. Use of the site has decreased in the past few years. This poses both positive and negative aspects to the project program that will need to be addressed as well.

Distress

The current location has seen some decline of business in the past few years. The building currently on the site was once a Blockbuster Video Store. They chose to move into a new retail complex adjacent to the original building, where two storefronts currently sit open. Across the street, a CVS Pharmacy is still attached to the former Sun-Mart Grocery Store and in front of it, an auto-parts store sits empty as well. Although decline in business creates distress, it also provides opportunities. I believe that major reasoning behind this decline is a shift in commercial activity to the west, but with a program such as mine, placement on the edge of a busy commercial district poses no strong challenge to the integrity of the well-being. In fact, the integration of this program into my chosen site would hopefully merge the residential with the commercial, boosting the economic status and overall quality of the site.



Site Character

The current activity of the site is moderate, fluctuating throughout the day. The connectivity to several different elements that make up a functional city give it unlimited possibilities. Although modest, it could be so much more.

The boundaries of the site are defined by streets and the city grid system. On the northern edge, 13th Ave S runs in the east-west direction. On the eastern edge, 23rd St runs in the north-south direction. An alleyway running parallel to 13th Ave S runs along the southern edge, providing a connection to other buildings on adjacent sites. No strong boarder runs along the eastern edge. The current parking lot runs through, connecting to the parking lot of adjacent businesses.

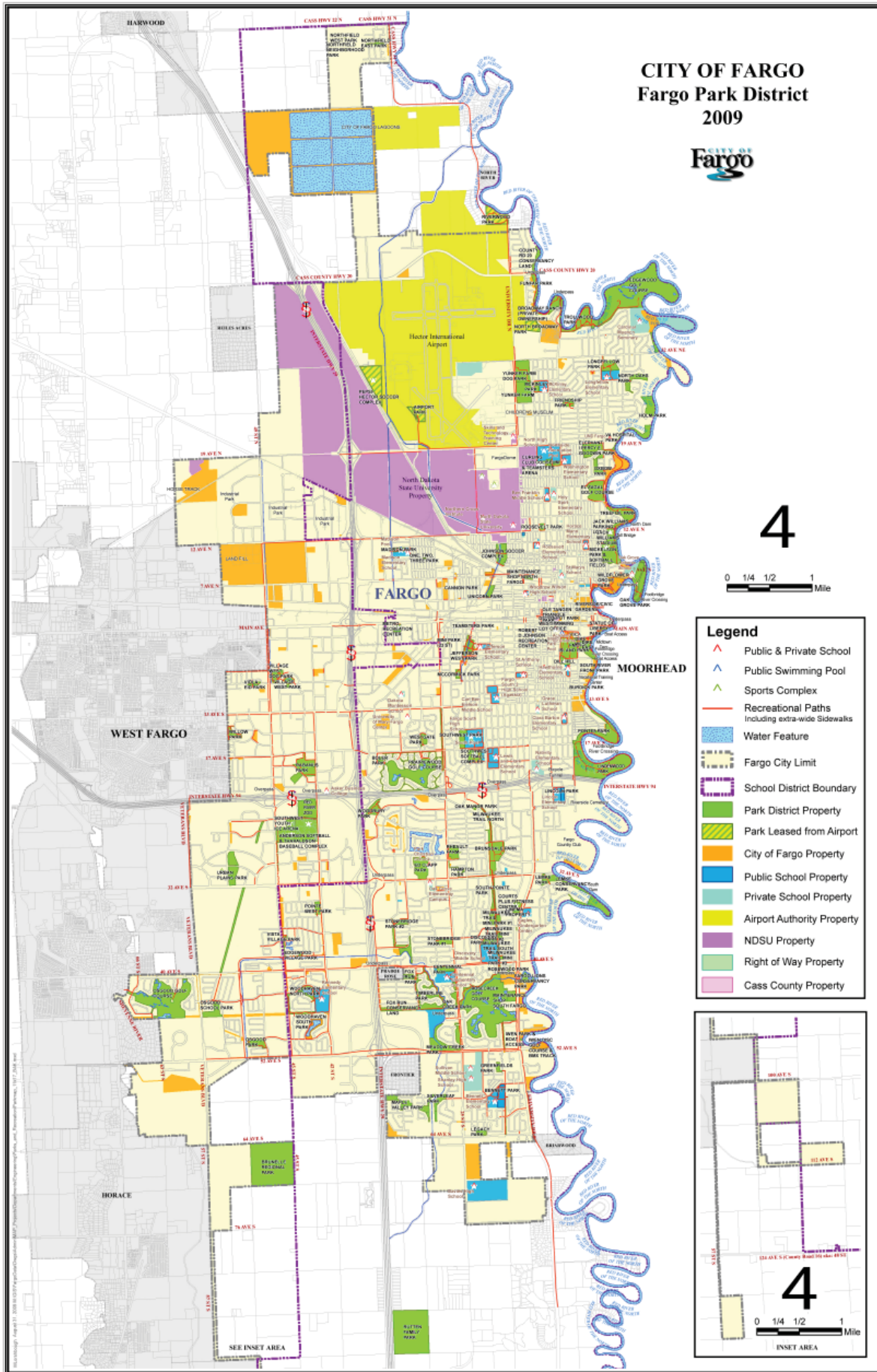
Utilities are provided by the city of Fargo and connections already exist on site due to the fact that there is a current building that is now vacant.

Because this is primarily an urban setting, roads and buildings make up a majority of the adjacent site. These provide the main form of transport and breakup the movement of the city.

The site is a mostly paved site, with very little vegetative cover. Large Trees are not overly abundant on the site; however, 2 trees are growing on the back edge of the lot. More trees run along the pedestrian sidewalks on the north and east edge and are maintained by the city of Fargo.

Since this is an urban site, rocks & other geological features are scarce on site.

The site lies along the cardinal compass directions, based off of the Fargo grid system. Contours are practically nonexistent except for the slight change in elevation for drainage purposes.



Soils

Fargo soils are primarily made up of silts and organic clays that are weak structurally, which explains low-lying buildings within Fargo.

Utilities

Normal utilities such as electric, gas and water are provided by Fargo. Controls are located on site, as well as a city fire-hydrant and recycling bins across the street.

Vehicular Traffic

Traffic runs mainly to the north and east of the site due to the fact that it's located on the corner of a lighted intersection. 13th Ave S runs east-west to the north and consists of 4 lanes of traffic. Traffic on this road has a steady to heavy flow of vehicles and varies throughout the day. 23rd St running along the east boundary leads to residential properties, so traffic is stronger before & after the normal work day when residents come to & from home. An alley entrance to the south leads to all adjoining businesses and may have constant but slow vehicle movement throughout the day.

Pedestrian Traffic

Sidewalks run along the north and east edges of the site, making pedestrian routes easy to access. The Metro Area Transit System runs public buses along 13th Ave S. A bus stop and shelter for the public transportation is located at the NE corner of the site, adding convenience to the site facilities.

Topographic Survey

The city of Fargo has a naturally low slope. The site is pre-engineered so the paved surfaces have already been sloped to 1-4% for easy use and appropriate water drainage



Climate Data

Fargo is located in the Lake Agassiz Basin within the Red River Valley in the central United States. Because it is located in the Midwest, far from any large bodies of water or mountain regions, the city is subject to an extreme continental climate. This means very cold winters, hot summers and not much in between. Although it is not subject to earthquakes, hurricanes or volcanos, it does experience all possible weather conditions throughout most of the year.

Average Yearly Temperature = 45°
Average High Temperature = 71° (July)
Average Low Temperature = 6° (January)

Relative Humidity Low = 64%
Relative Humidity High = 81%

Yearly Precipitation = 19.6 inches
Yearly Snowfall = 38 inches
Yearly Percentage of Sunshine = 57%

Average Clear Days per Year = 88
Average Partly Cloudy Days per Yr = 109
Average Cloudy Days per Year = 168
Average Rainy Days per Year = 99

Average Yearly Wind Speed = 12.2 MPH

With a flat terrain and low lying buildings, wind is often apparent in the city of Fargo. It is a constant weather condition, often affecting the overall perception of temperatures with wind chills 30° below the current temperature. These winds are strong from the north-west during the winter but bring cool breezes from the south-east during the summer.

Bringing light into the building will also be a challenge because most days are overcast with clouds. Days also become extremely short for about 4 months of the year, often losing light by 5pm during the winter months.

North-West Corner

North View



East View



South View



West View



North-East Corner



North View



East View



South View



West View

South-West Corner

North View



East View



South View



West View



South-East Corner



North View



East View



South View



West View



Community Space / Physical Learning Space

Large Space for Group Gathering	10,000 Sq. Ft.
Storage Closets	500 Sq. Ft.
Kitchen	1,000 Sq. Ft.

Activity Rooms

Multiple Activity Rooms for Smaller Groups	2,000 Sq. Ft.
Storage Closets	200 Sq. Ft.
Personal Storage Spaces	50 Sq. Ft.
Quiet Break-Out Spaces	200 Sq. Ft.
Unisex Rest Rooms	200 Sq. Ft.
Kitchenette (Sink, Storage, Fridge & Microwave)	200 Sq. Ft.

Library Resource Center

Large Space with Book Shelving & Seating	3,000 Sq. Ft.
Break-Out Work Spaces used for tutoring	200 Sq. Ft.
Staff Desk & Storage	50 Sq. Ft.
Rest Room Facilities	100 Sq. Ft.

Atrium

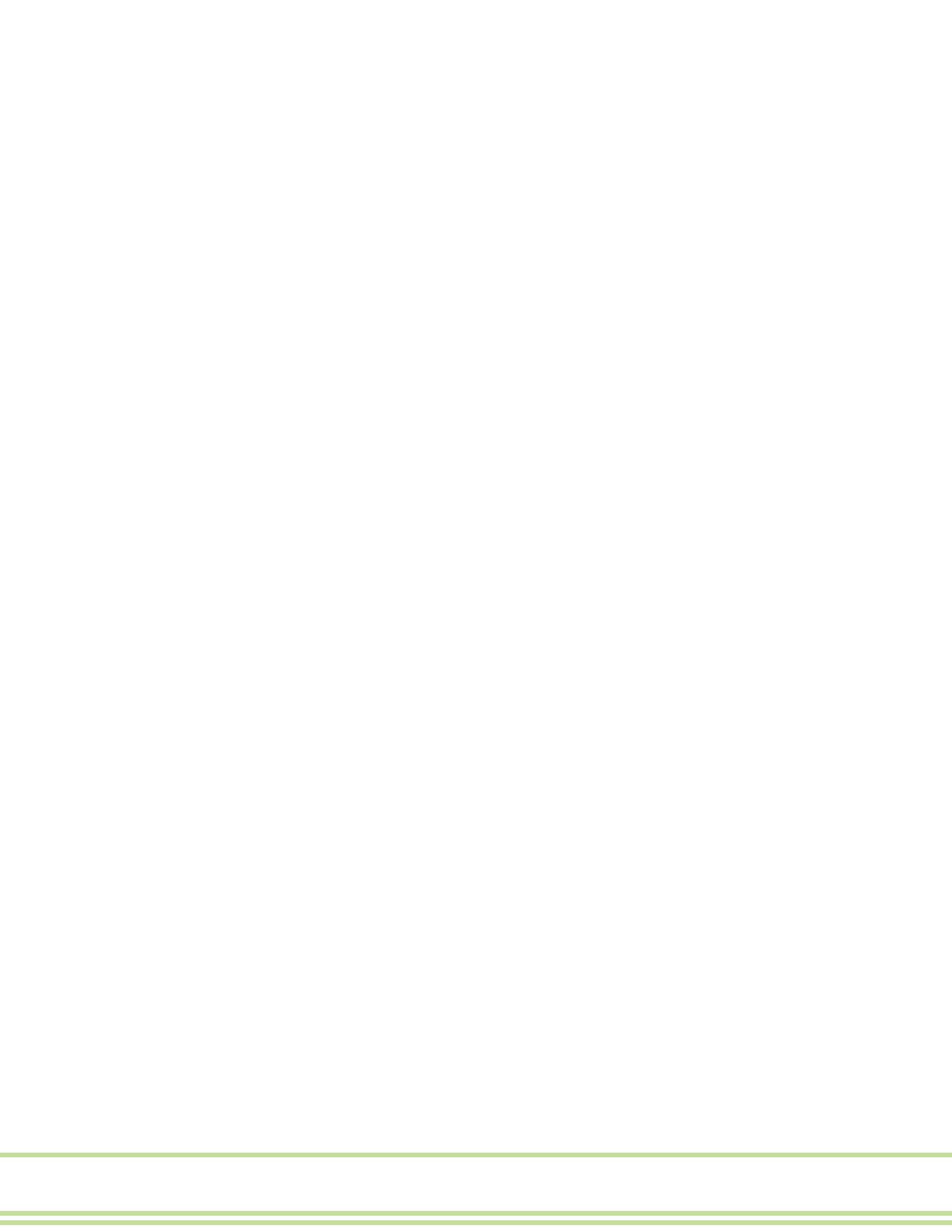
Public Rest Rooms	200 Sq. Ft.
Male & Female Locker Rooms	200 Sq. Ft.
Gathering Spaces	1,000 Sq. Ft.
Custodial Room with storage	100 Sq. Ft.
Mechanical Storage	3,000 Sq. Ft.

Administration Office

Staff Desks & Supplies	500 Sq. Ft.
Record Storage	200 Sq. Ft.
Staff Rest Room Facilities	200 Sq. Ft.
Student Resource Room	200 Sq. Ft.

Outdoor Environment

Interactive Outdoor Environment	50,000 Sq. Ft.
Storage Space	200 Sq. Ft.



Sustainable Sites - Total: 20pts

SSP1: Construction Activity Pollution Prevention (Required)

Create and implement an erosion and sedimentation control plan for all construction activities associated with the project.

SSP2: Environmental Site Assessment (Required)

Conduct a Phase I Environmental Site Assessment to determine whether environmental contamination exists at the site.

SSC1: Site Selection (1 pt)

Do not develop buildings, hardscape, roads or parking areas on portions of sites that meet any of the following criteria:

- Prime farmland as defined by the U.S. Department of Agriculture in the United States Code of Federal Regulations.
- Previously undeveloped land whose elevation is lower than 5 feet above the elevation of 100-year flood as defined by the Federal Emergency Management Agency (FEMA).
- Land specifically identified as habitat for any species on federal or state threatened or endangered lists.
- Land within 100 feet of any wetlands as defined by the U.S. Code of Federal Regulations and isolated wetlands or areas of special concern identified by state or local rule, OR within setback distances from wetlands prescribed in state or local regulations, as defined by local or state rule or law, whichever is more stringent.
- Previously undeveloped land that is within 50 feet of a water body, defined as seas, lakes, rivers, streams and tributaries that support or could support fish, recreation or industrial use, consistent with the terminology of the Clean Water Act.
- Land that prior to acquisition for the project was public parkland, unless land of equal or greater value as parkland is accepted in trade by the public landowner.

SSC2: Development Density & Community Connectivity (4pts)

Construct or renovate a building on a site that meets the following criteria:

- Is located on a previously developed site.
- Is within 1/2 mile of a residential area or neighborhood with an average density of 10 units per acre net.
- Is within 1/2 mile of at least 10 basic services: Bank, Beauty Salon, Medical Office, Park, Pharmacy, Restaurant (2), School, Supermarket & Fitness Center.
- Has pedestrian access between the building and the services.

No more than 2 of the 10 services required may be anticipated. In addition, the anticipated services must demonstrate that they will be operational in the locations indicated within 1 year of occupation of the applicant project. Proximity is determined by drawing a 1/2 mile radius around a main building entrance on a site map and counting the services within that radius.

SSC4.1: Alternative Transportation - Public Transportation Access (4pts)

Locate the project within 1/4 mile walking distance (measured from a main building entrance) of 1

or more stops for 2 or more public, campus, or private bus lines usable by building occupants. A school bus system may count as 1 of these lines.

SSC4.2: Alternative Transportation – Bicycle Storage and Changing Rooms (1 pt)

Provide secure bicycle racks and/or storage within 200 yards of a building entrance for 5% or more of all building staff and students above grade 3 level (measured at peak periods). Provide shower and changing facilities in the building, or within 200 yards of a building entrance, for 0.5% of full-time equivalent (FTE) staff. Provide dedicated bike lanes that extend at least to the end of the school property in 2 or more directions without any barriers (e.g. fences) on school property.

SSC4.3: Alternative Transportation – Low-Emitting and Fuel-Efficient Vehicles (2pts)

Develop and implement a plan for the buses and maintenance vehicles serving the school to use 20% (by vehicles, fuel or both) natural gas, propane or biodiesel or to the low-emitting and fuel-efficient vehicles.

SSC4.4: Alternative Transportation – Parking Capacity (2pts)

Size parking capacity must meet but not exceed minimum local zoning requirements. Provide preferred parking for carpools or vanpools for 5% of the total parking spaces.

SSC5.1: Site Development – Protect or Restore Habitat (1 pt)

Restore or protect a minimum of 50% of the site (excluding the building footprint) or 20% of the total site area (including building footprint), whichever is greater, with native or adapted vegetation. Projects earning SS Credit 2: Development Density and Community Connectivity may include vegetated roof surface in this calculation if the plants are native or adapted, provide habitat, and promote biodiversity.

SSC5.2: Site Development – Maximum Open Space (1 pt)

Provide vegetated open space equal to 20% of the project's site area. For projects in urban areas that earn SS Credit 2: Development Density and Community Connectivity, vegetated roof areas can contribute to create compliance. For projects in urban areas that earn SS Credit 2: Development Density and Community Connectivity, pedestrian-orientated hardscape areas can contribute to credit compliance. For such projects, a minimum of 25% of the open space counted must be vegetated.

SSC6.1: Stormwater Design – Quantity Control (1 pt)

Implement a storm water management plan that results in a 25% decrease in the volume of stormwater runoff from the 2-year-24-hour design storm.

SSC6.2: Stormwater Design – Quality Control (1 pt)

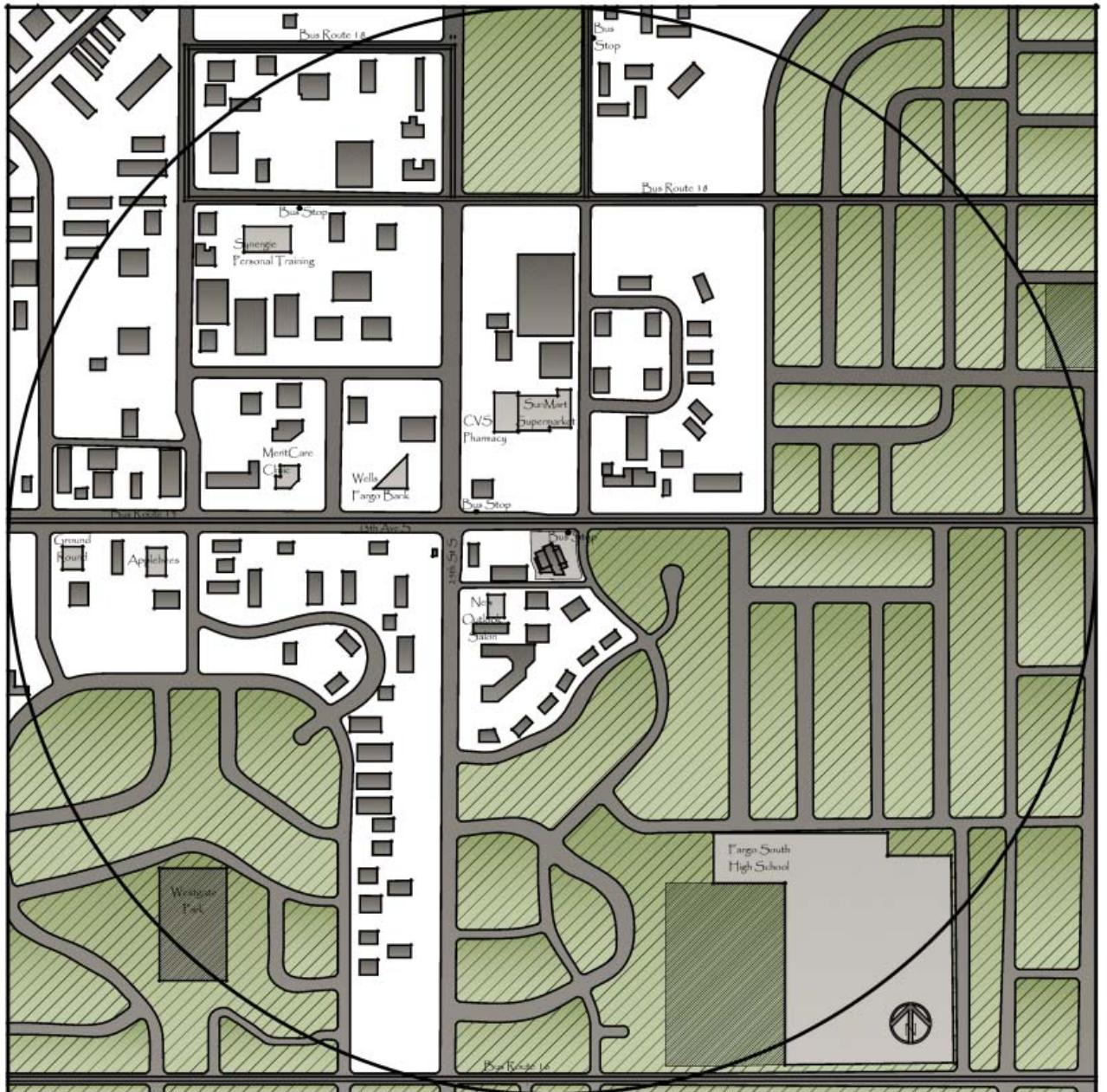
Implement a stormwater management plan that reduces impervious cover, promotes infiltration

and captures and treats the stormwater runoff from 90% of the average annual rainfall using acceptable best management practices (BMPs).

SSC7.1: Heat Island Effect – Nonroof (1 pt)

Use any combination of the following strategies for 50% of the site hardscape (including roads, sidewalks, courtyards and parking lots):

- Provide shade from the existing tree canopy or within 5 years of landscape installation. Landscaping (trees) must be in place at the time of occupancy.
- Provide shade from structures covered by solar panels that produce energy used to offset some nonrenewable resource use.
- Provide shade from architectural devices or structures that have a solar reflectance index (SRI) of at least 29.
- Use hardscape materials with an SRI of at least 29.
- Use an open-grid pavement system (at least 50% pervious).



SSC7.2: Heat Island Effect – Roof (1 pt)

Install a vegetated roof that covers at least 50% of the roof area.

* * *

Water Efficiency - Total: 10pts

WEPI: Water Use Reduction (Required)

Employ strategies that in aggregate use 20% less water than the water use baseline calculated for the building (not including irrigation).

WEC1: Water Efficient Landscaping (4pts)

Reduce potable water consumption for irrigation by 50% from a calculated midsummer baseline case. Reductions must be attributed to any combination of the following items:

- Plant Species, density and microclimate factor
- Irrigation efficiency
- Use of captured rainwater
- Use of recycled wastewater
- Use of water treated and conveyed by a public agency specifically for nonpotable uses

Groundwater seepage that is pumped away from the immediate vicinity of building slabs and foundations may be used for landscape irrigation to meet the intent of this credit. However, the project team must demonstrate that doing so does not affect site stormwater management systems. Use only captured rainwater, recycled wastewater, recycled graywater or water treated and conveyed by a public agency specifically for nonpotable uses for irrigation.

WEC2: Innovative Wastewater Technologies (2pts)

Reduce potable water use for building sewage conveyance by 50% through the use of water-conserving fixtures (e.g. water closets, urinals) or nonpotable water (e.g. captured rainwater, recycled graywater, on-site or municipally treated wastewater).

WEC3: Water Use Reduction (4pts)

Employ strategies that in aggregate use 40% less water than the water use baseline calculated for the building (not including irrigation).

* * *

Energy and Atmosphere - Total: 10pts

EAP1: Fundamental Commissioning of Building Energy Systems (Required)

EAP2: Minimum Energy Performance (Required)

The project must establish an energy performance rating goal for the facility design using EPA's Target Finder rating tool.

EAP3: Fundamental Refrigerant Management (Required)

Zero use of chlorofluorocarbon (CFC)-based refrigerants in new base building heating, ventilating, air conditioning and refrigeration (HVAC&R) systems.

EAC2: On-Site Renewable Energy (7pts)

Use on-site renewable energy systems to offset 13% building energy costs.

EAC4: Enhanced Refrigerant Management (1 pt)

Do not use refrigerants.

EAC6: Green Power (2pts)

Engage in at least a 2-year renewable energy contract to provide at least 35% of the building's electricity from renewable sources, as defined by the Center for Resources Solutions' Green-e Energy product certification requirements.

* * *

Materials and Resources - Total: 10pts

MRP1: Storage and Collection of Recyclables (Required)

Provide an easily-accessible dedicated area for the collection and storage materials for recycling for the entire building. Materials must include at a minimum paper, corrugated cardboard, glass, plastics and metals.

MRC2: Construction Waste Management (2pts)

Recycle and/or salvage 75% of nonhazardous construction and demolition debris. Develop and implement a construction waste management plan that, at a minimum, identifies the materials to be diverted from disposal and whether the materials will be sorted on-site or commingled. Excavated soil and land-clearing debris do not contribute to this credit.

MRC3: Materials Reuse (2pts)

Use salvaged, refurbished or reused materials, the sum of which constitutes at least 10%, based on cost, of the total value of materials on the project.

MRC4: Recycled Content (2pts)

Use materials with recycled content such that the sum of post-consumer recycled content plus 1/2 of the pre-consumer content constitutes at least 20%, based on cost, of the total value of the materials in the project.

MRC5: Regional Materials (2pts)

Use building materials or products that have been extracted, harvested or recovered, as well as manufactured, within 500 miles of the project site for a minimum of 20%, based on cost, of the total materials value.

MRC6: Rapidly Renewable Materials (1 pt)

Use rapidly renewable building materials and products for 2.5% of the total value of all building materials and products used in the project, based on cost. Rapidly renewable building materials and products are made from plants that are typically harvested within 10-year or shorter cycle.

MRC7: Certified Wood (1 pt)

Use a minimum of 50% (based on cost) of wood-based materials and products that are certified in accordance with the Forest Stewardship Council's principles and criteria, for wood building components. These components include at a minimum, structural framing and general dimensional framing, flooring, sub-flooring, wood doors and finishes.

* * *

Indoor Environmental Quality - Total: 5pts

IEQP1: Minimum Indoor Air Quality Performance (Required)

IEQP2: Environmental Tobacco Smoke (ETS) Control (Required)

Prohibit smoking in the building. Prohibition-property smoking within 25 feet of entries, outdoor air intakes and operable windows. Provide signage to allow smoking in designated areas, prohibit smoking in designated areas or prohibit smoking on the entire property.

IEQP3: Minimum Acoustical Performance (Required)

IEQC6.1: Controllability of Systems - Lighting (1 pt)

Provide individual lighting controls for 90% (minimum) of the building occupants to enable adjustments to suit individual task needs and preferences. Provide lighting system controls for all shared multi-occupant spaces to enable adjustments that meet group needs and preferences.

IEQC6.2: Controllability of Systems - Thermal Comfort (1 pt)

Provide individual comfort controls for 50% (minimum) of the building occupants to enable adjustments (for workspaces only in Schools projects) to meet individual needs and preferences. Operable windows may be used in lieu of controls for occupants located 20 feet inside and 10 feet to either side of the operable part of a window. Provide comfort system controls for all shared multi-occupant spaces to enable adjustments that meet group needs and preferences.

IEQC8.1: Daylight and Views - Daylight (2pts)

Achieve 75% daylighting in classroom spaces and all other regularly occupied spaces.

IEQC8.2: Daylight and Views - Views (1 pt)

Achieve a direct line of sight to outdoor environment via vision glazing between 30 inches and 90 inches above the finish floor for building occupants in 90% of all regularly occupied areas.

Innovation and Design (Total: 5pts)

IDC 1: Innovation in Design (3pts)

Achieve exemplary performance in an existing LEED 2009 credit that allows exemplary performance as specified

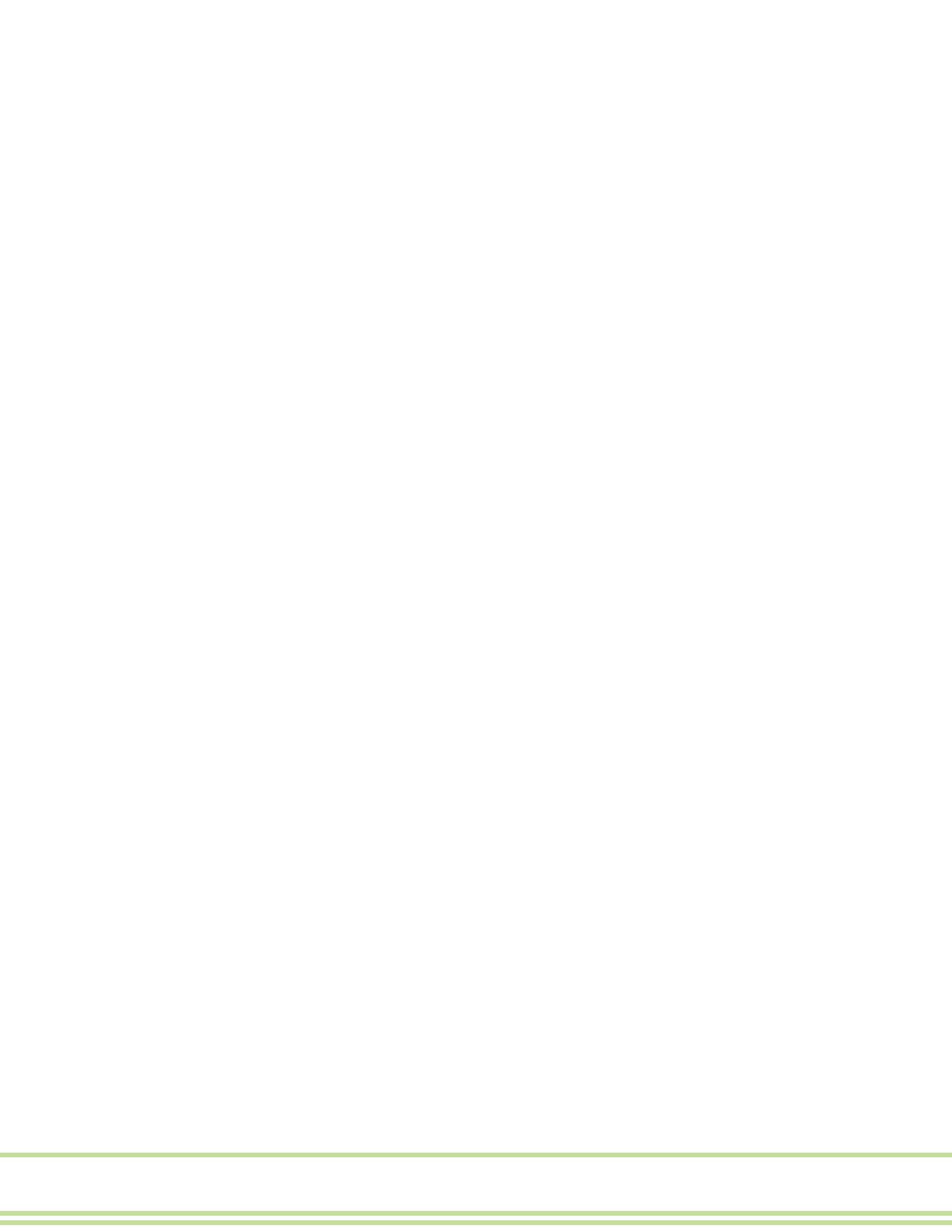
- SS Credit 4.1: Alternative Transportation - Public Transportation Access
- SS Credit 5.1: Site Development - Protect or Restore Habitat
- SS Credit 5.2: Site Development - Maximum Open Space
- EA Credit 2: On-Site Renewable Energy
- MR Credit 3: Material Reuse
- MR Credit 4: Recycled Content
- MR Credit 5: Regional Materials
- MR Credit 6: Rapidly Renewable Materials

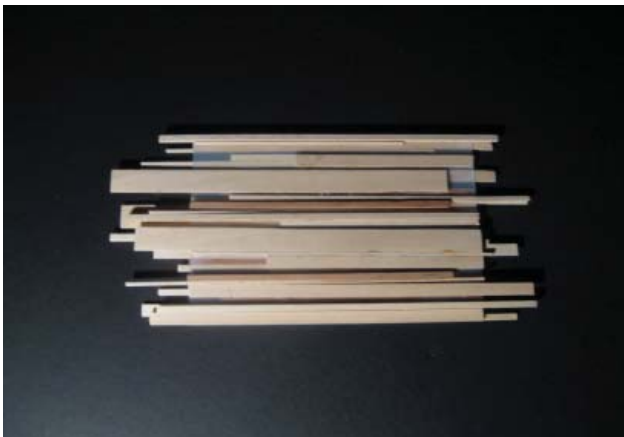
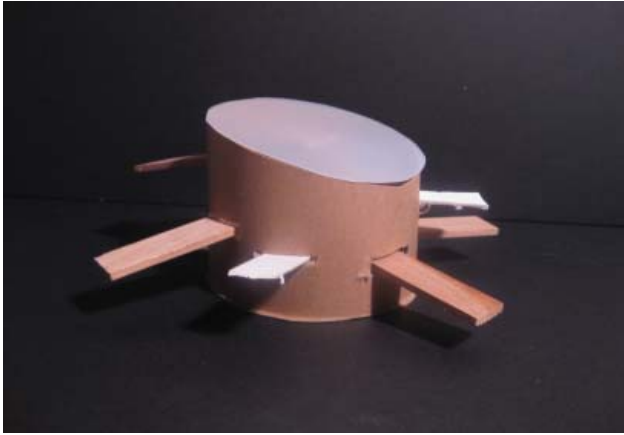
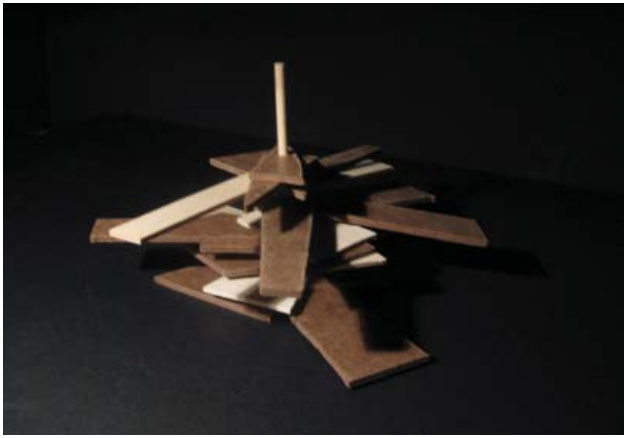
IDC2: LEED Accredited Professional (1 pt)

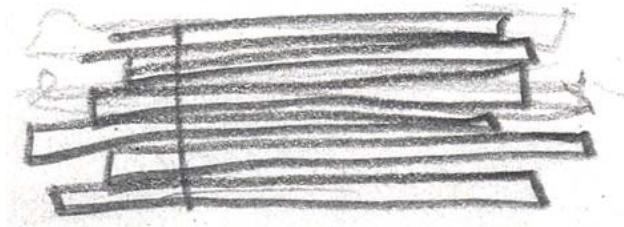
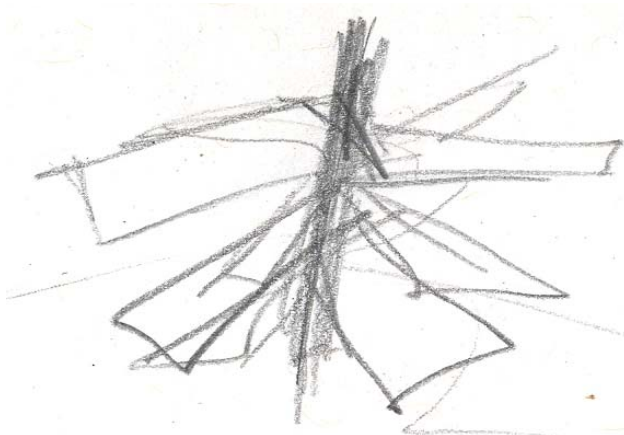
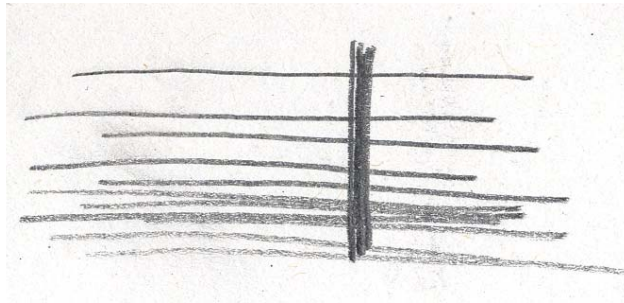
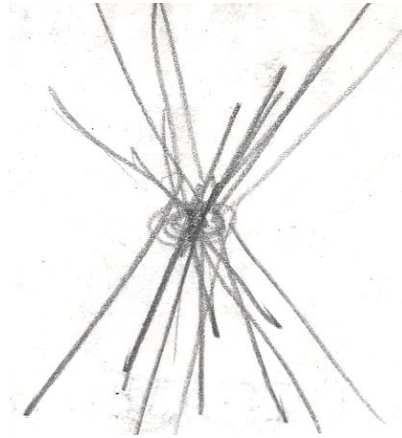
At least 1 principal participant of the project team shall be a LEED Accredited Professional (AP).

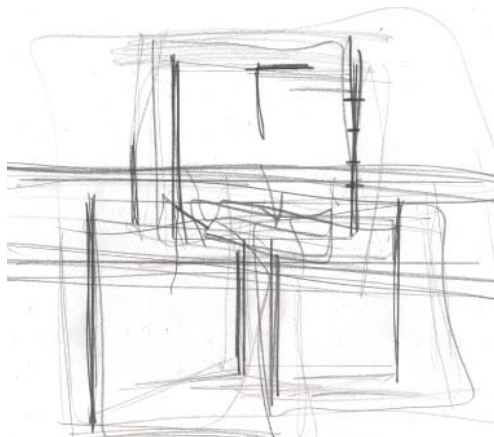
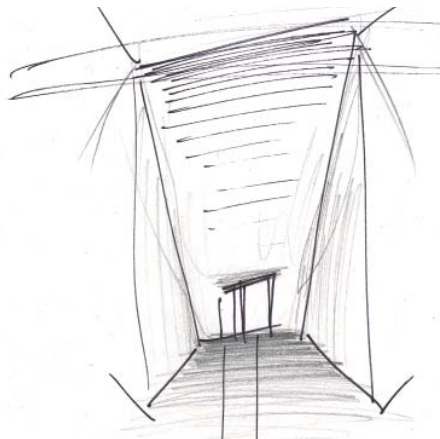
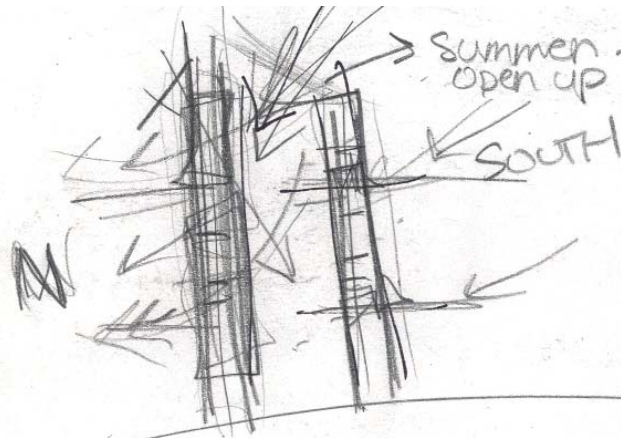
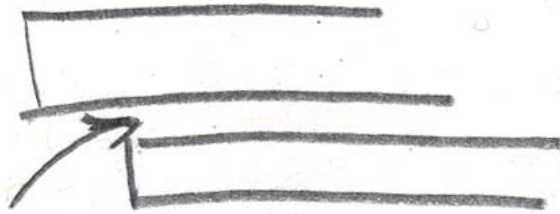
IDC3: The School at a Teaching Tool (1 pt)

Design a curriculum based on the high-performance features of the building, and commit to implementing the curriculum within 10 months of LEED certification. The curriculum should not just describe the features themselves, but explore the relationship between human ecology, natural ecology and the building. Curriculum must meet local or state curriculum standards, be approved by school administrators and provide 10 or more hours of classroom instruction per year, per full-time student.

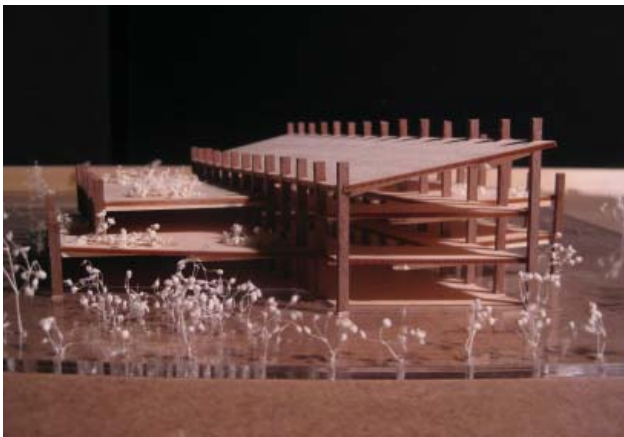
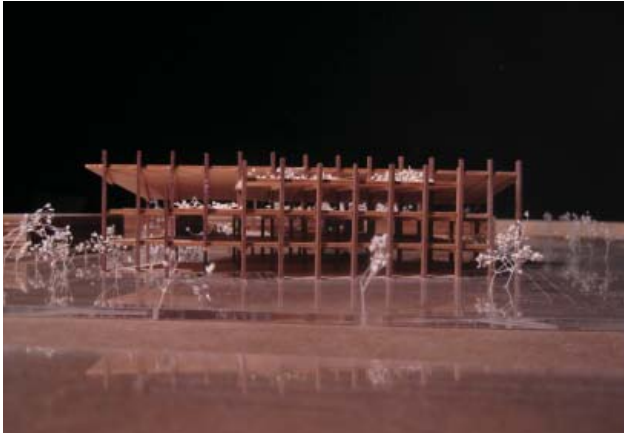


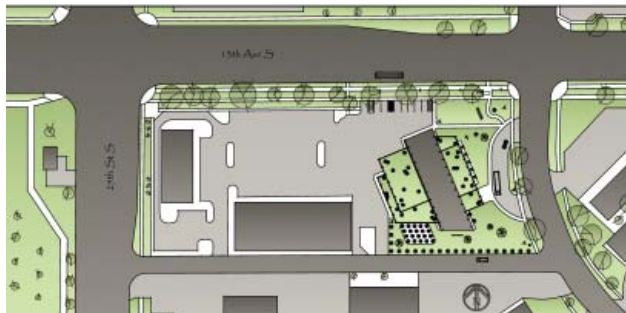
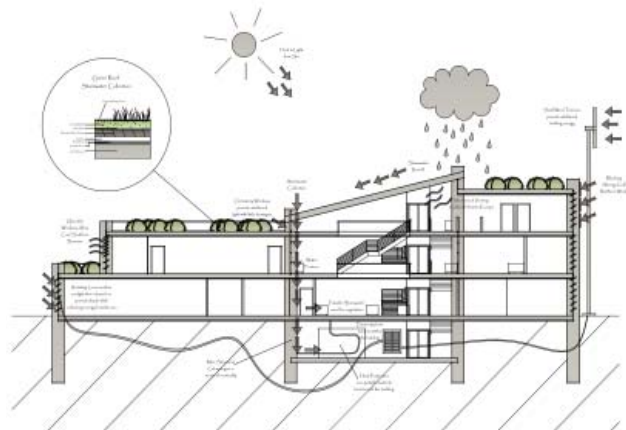
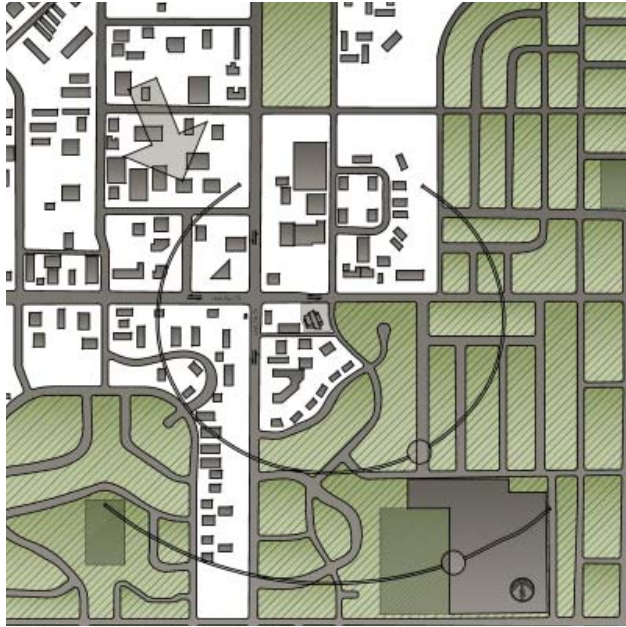








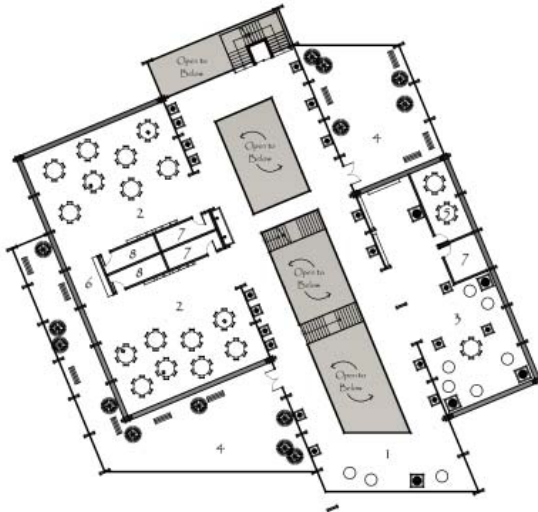






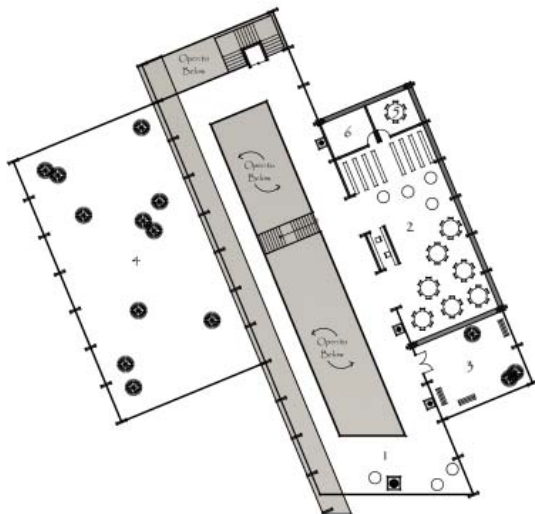
- 1. Main Entrance
- 2. Service Entry
- 3. Atrium
- 4. Office
- 5. Conference Space
- 6. Educational Work Center & Gathering Space
- 7. Restroom
- 8. Storage
- 9. Locker Rooms
- 10. Resource Space

1st Floor Plan



- 1. Atrium
- 2. Educational Space
- 3. Flexible Activity Space
- 4. Outdoor Balcony
- 5. Study Space
- 6. Kitchenette
- 7. Restroom
- 8. Storage
- 8. Storage

2nd Floor Plan



- 1. Atrium
- 2. Media Center
- 3. Balcony
- 4. Green Roof
- 5. Break-out Space
- 6. Restroom

3rd Floor Plan











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“Let Nature be your teacher.”

- William Woodworth