

COMMUNITIES

PROGRESS THROUGH
GATHERING

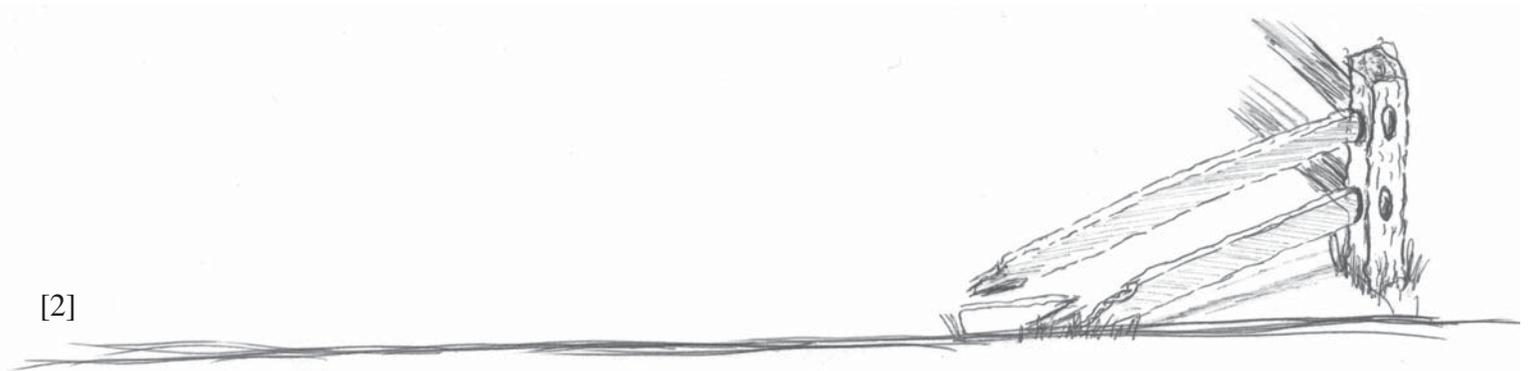


Mitchell
Tromberg

Thesis Design

5/12/11

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COMMUNITIES PROGRESS THROUGH GATHERING

A Design Thesis Submitted to the
Department of Architecture and Landscape Architecture
of North Dakota State University

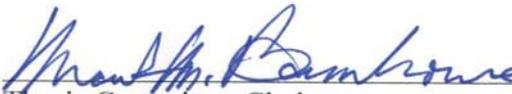
By

Mitchell Tromberg

In Partial Fulfillment of the Requirements
for the Degree of
Master of Architecture

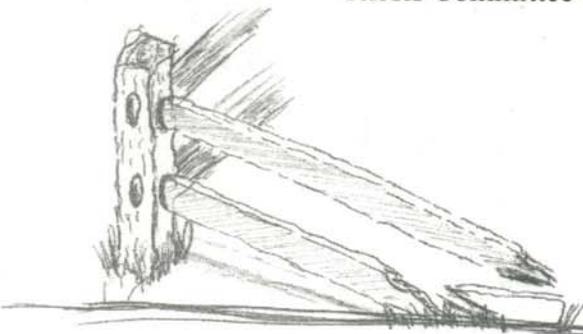

Primary Thesis Advisor

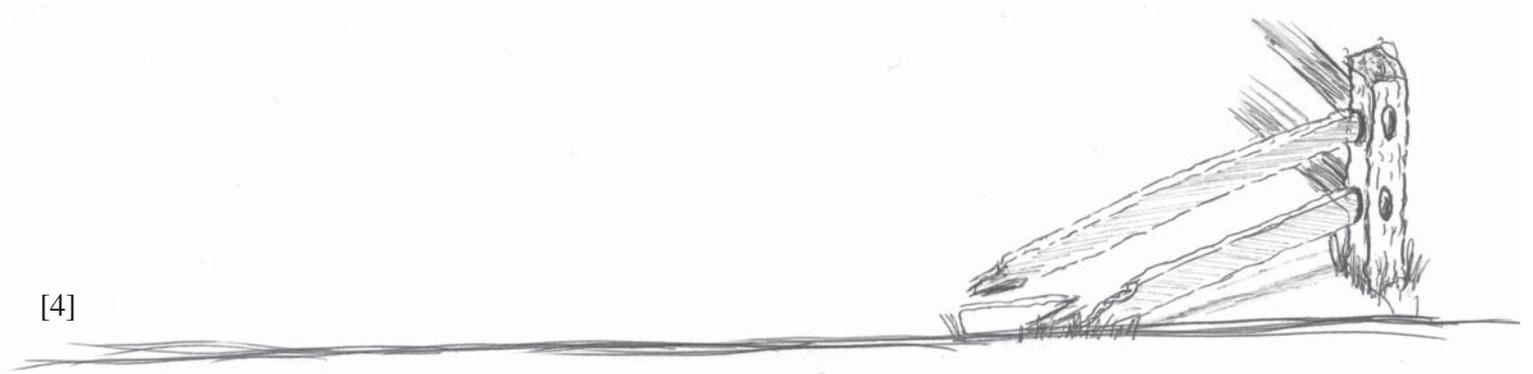
MAY 11, 2011
Date


Thesis Committee Chair

05/11/11
Date

May, 2011
Fargo, North Dakota





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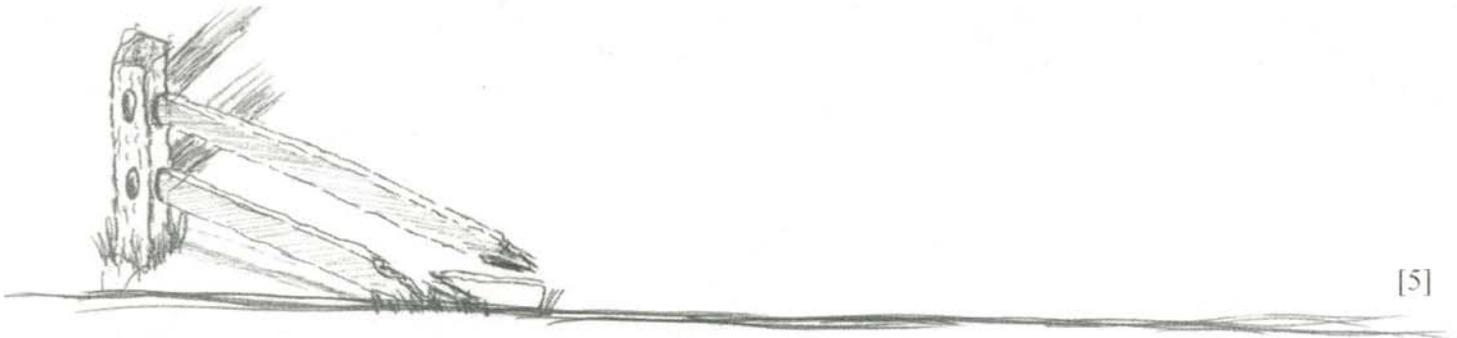
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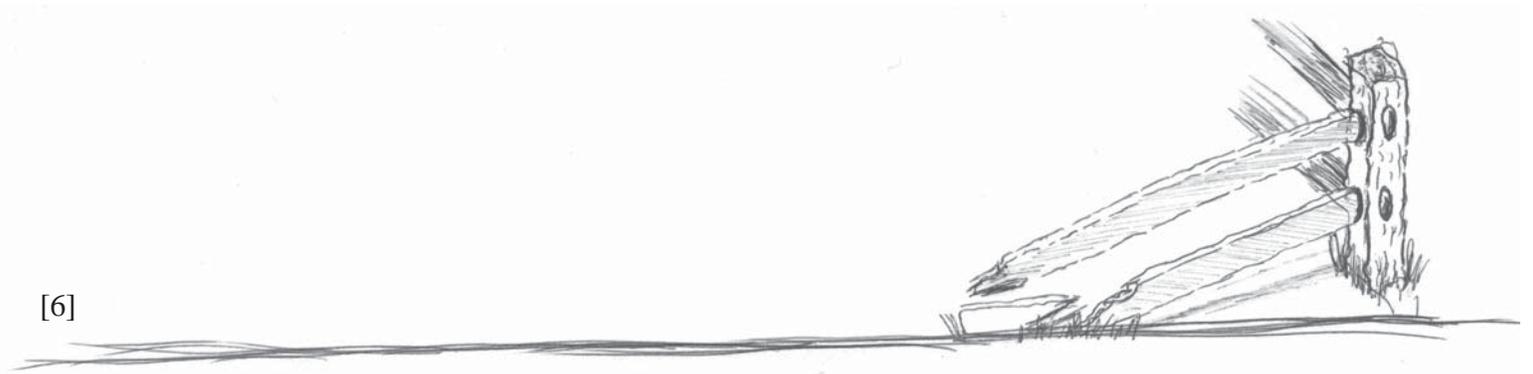
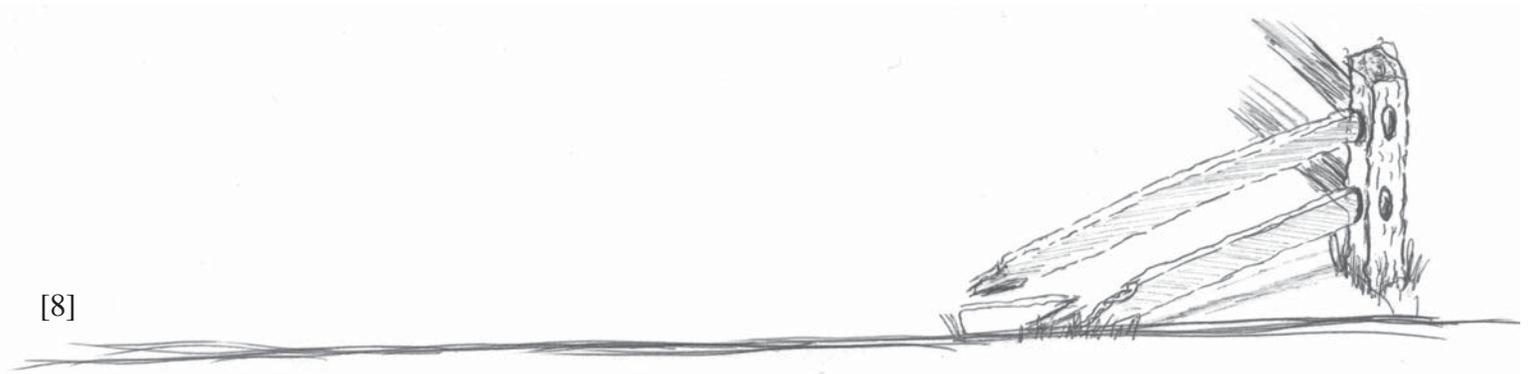


TABLE OF CONTENTS

Thesis Abstract	9
Thesis Problem Statement	10
Statement of Intent	12
The Proposal	14
Narrative	15
User / Client Description	17
Major Project Elements	18
Site Information	20
Project Emphasis	23
Plan for Proceeding	24
Studio Experience	25
Program Document	26
Theoretical Premise Research	27
Case Studies	43
Historical Context	61
Goals	68
Site Analysis	71
Program Requirements	81
Design Solution	83
Reference List	88
Personal Identification	91



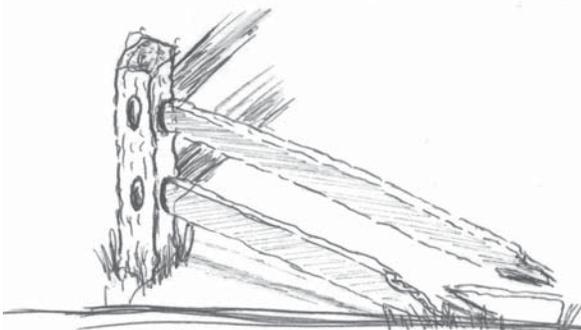


ABSTRACT

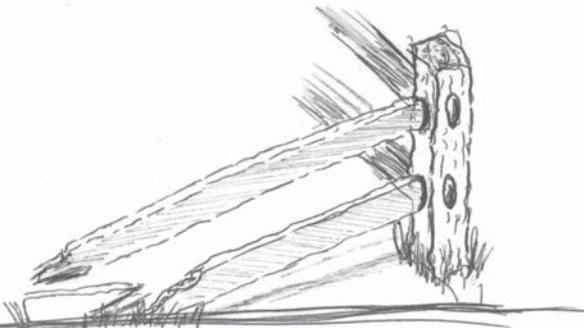
The ideas of how architecture can help rural communities stay viable in the twenty-first century will be explored through the development and design of a multi-use community center. Located in Grantsburg, a small rural town in north-western Wisconsin, the design will be based on current and future community needs. These needs will be uncovered through a mixed-methods study of the community and multiple case studies of multi-use community structures.

KEY WORDS

**ARCHITECTURE, RURAL, COMMUNITY,
MULTI-USE, SUCCESSFUL**



THE
PROBLEM
STATEMENT



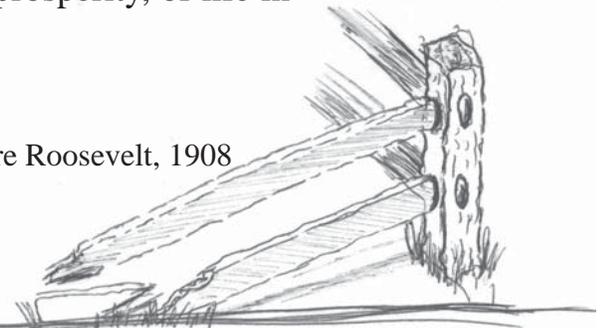
What role can architecture play in helping small rural communities stay viable in the 21st century?



THE STATEMENT OF INTENT

“I warn my countrymen, that the great recent progress made in city life is not a full measure of our civilization; for our civilization rests at bottom on... the completeness, as well as the prosperity, of life in the country.”

President Theodore Roosevelt, 1908



PROJECT TYPOLOGY

A multi-use rural community center.

THE CLAIM

Architecture can, in part, help ensure the continued survival and viability of small rural communities as we push into the 21st century.

PREMISES

Architects play a vital role in ensuring the survival of rural America. They hold the ability to merge new technology and design values together into one.

Being viable, or able to develop and grow, is essential to ensuring the continued existence of a society, culture, or community.

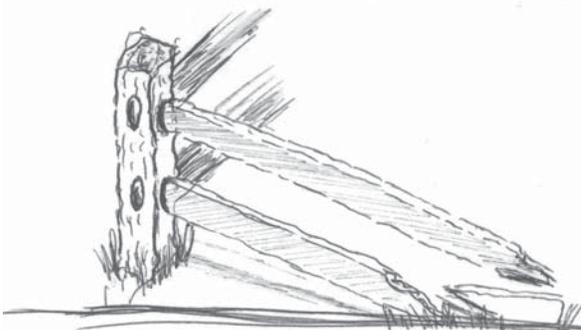
Rural communities play a key role in the American way of life. Their continued existence is crucial to the stability of our economy, social classes, and overall livelihood.

THEORETICAL PREMISE & UNDERLYING IDEA

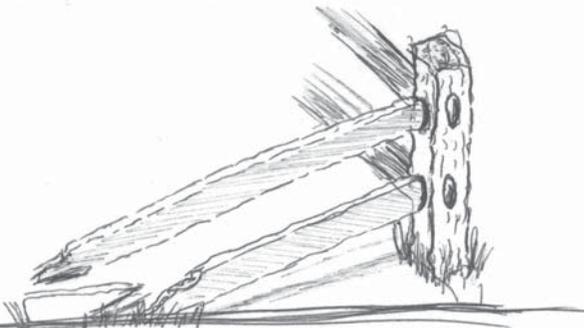
Architectural design can promote both the current and continued prosperity of rural America.

PROJECT JUSTIFICATION

Rural communities, a key component in the foundation of our country, need to adapt to the way society, the economy, and ways of life are changing in order to stay viable in both the short and long-term future. Part of this success is reliant on architects' ability to use new technology in a manner that is true to the residents' values while keeping in sight the present and future needs of the community.



THE
PROPOSAL



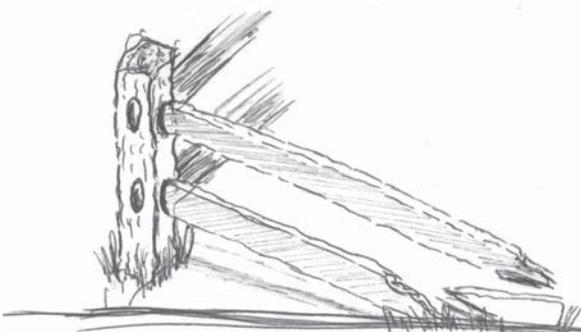
NARRATIVE

It has been more than 100 years Theodore Roosevelt established the Country Life Commission, (1908), and even longer since seven dedicated countrymen formed “The Grange of the Order of Patrons of Husbandry” (1867). In those one hundred-plus years our country has seen many changes, but some things remain the same. Grain is still grown and cattle still graze in rural America. The base of our economy and our developments sprout from what is grown and produced from the earth itself.

Although agribusiness remains at the core of rural America, the rest of the ever-changing factors of society continue to impose stress on small communities. As land becomes more expensive, department stores get cheaper, and the cost of educating today’s youth gets higher, communities erode. In rural America, the community is far greater than the sum of its parts, but remove enough parts and there can be no whole.

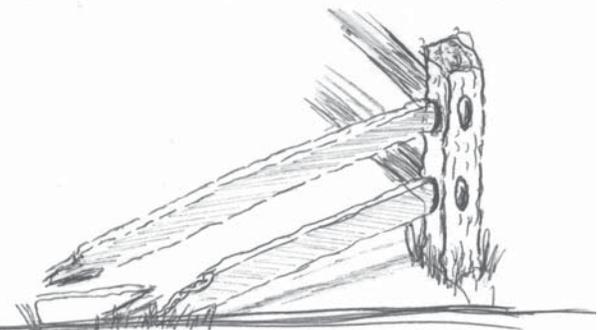
The continued success of rural America is dependent on the ability and willingness of the community members to come together and act as a whole.

Architecture has both a physiological and a psychological aspect. Physically a building provides a shelter from the elements, one of the primary needs for survival. It creates space for us to live, to work, and to play. But it does not stop there. The true beauty in architecture is how those spaces are created and what reactions they draw from their users.



Architecture has the ability to give a person many feelings. Some spaces are designed to be cold and sterile, both physically and emotionally, while other spaces are intended to evoke joy or even sorrow.

By tailoring the psychological aspect of an architectural design to the factors that contribute to a rural community's continued success, a physical design can be created to promote communication, learning, and teamwork to bring a community together in a way that the whole is greater than the sum of its parts.



USER/CLIENT DESCRIPTION

The “multi-use rural community center” will host a number of functions and the users will be the members of the community and surrounding area. Some of the town employees will have offices within the facility, but the large number of users will be the community members, for both private and public functions.

The younger members of the community will use the facility for afterschool learning as well, through organizations such as Boy Scouts, Girl Scouts, and 4H.

All members of the community will use the facility for public functions that will include town meetings, elections, and community education.

Private use of the facility will include receptions and business meetings.



Given the multiple uses to be included within the building it will be necessary to separate individual functions, but due to the project's desire to bring people together, it will also be necessary to show the individual parts in relation to the whole.

Lobby:

As the first interior space experienced by guests to the facility, the lobby will welcome them and clearly present the spatial organization of the facility, making it easier for them to understand where they are going. This space will also be used to tell the town's history through permanent and temporary displays.

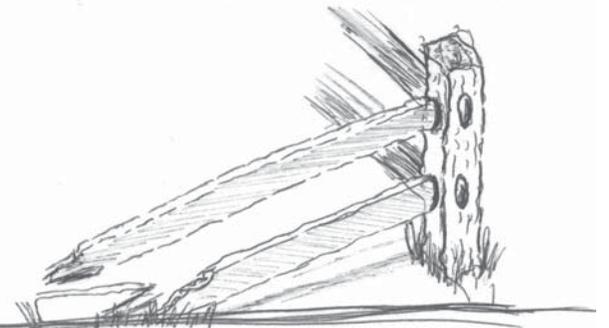
Offices:

Offices located within the building will house city officials and their support staff. Since these people are employed by the public to serve the public, their offices will be designed in a manner that facilitates their willingness to assist community members who have questions.

Large meeting space:

This space will be used for large community meetings, wedding receptions, and other functions that require a large nondescript space.

MAJOR PROJECT ELEMENTS



Small meeting space

This space will be used similarly to the large multi-use space but will be more personalized and suited for medium-sized groups.

Recreation space (multiple)

This space will consist of a large multi-use gym type space that can be used for sports activities as well as other functions such as an indoor farmers market.

Theatre

A small theatre will provide a space for both media presentations and plays.

Break-out spaces (multiple)

These lounge like areas will provide space for discussion and collaboration on an informal level.

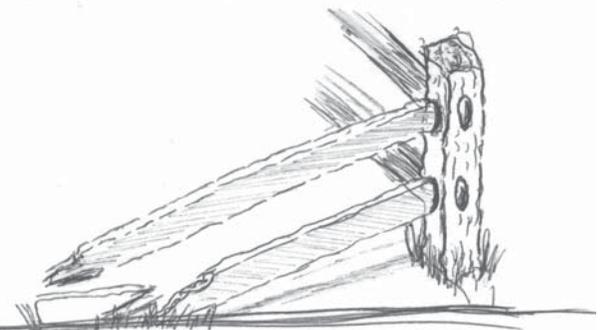
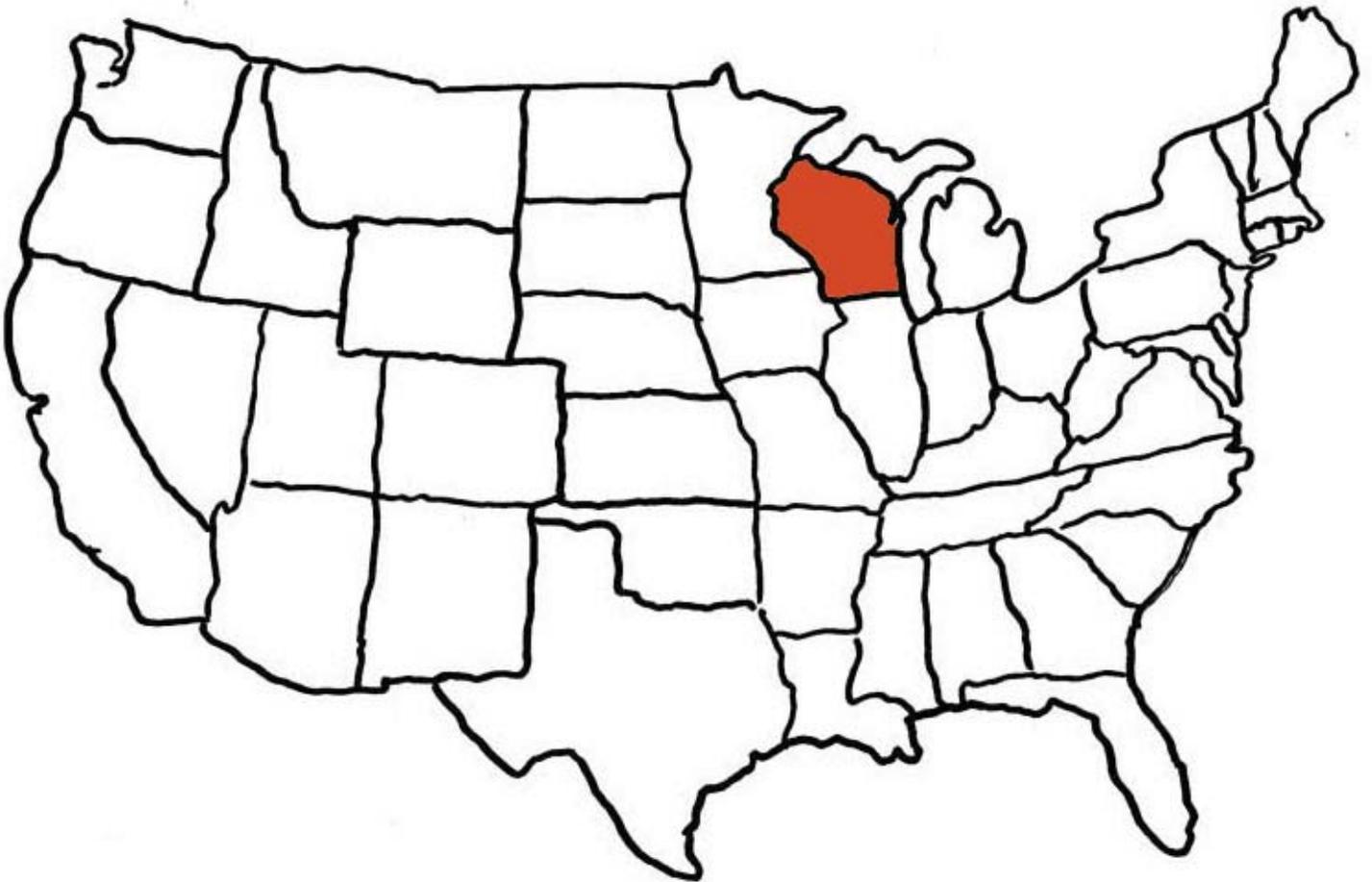
Parking

On-site parking will be provided for employees and small numbers of people. Parking for large events will use both on-site parking and street parking near the site.

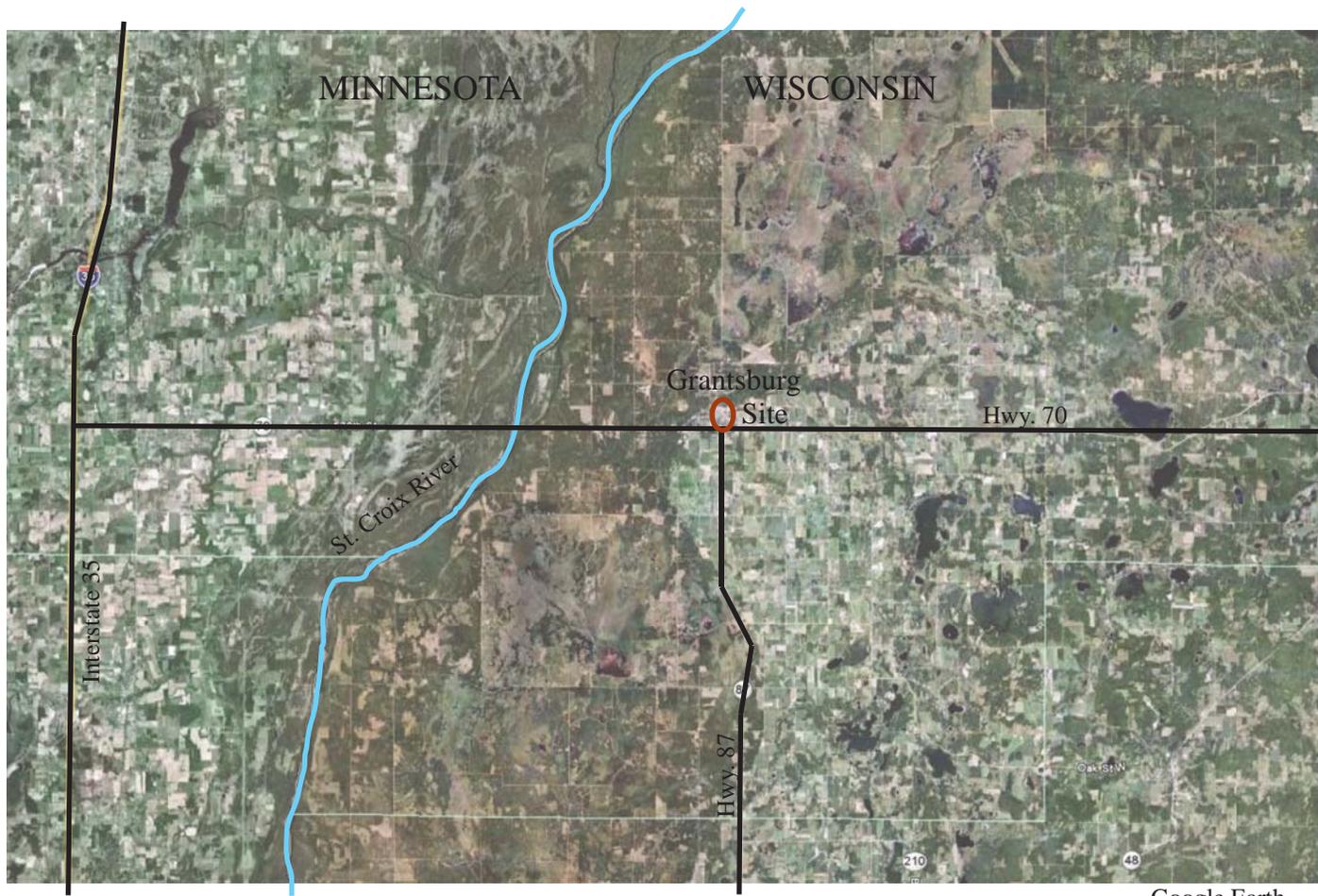


Burnett County, Wisconsin is located in north western Wisconsin along an imaginary line that divides land use. North of Grantsburg are “big woods” and south of Grantsburg is “farm country.” Like other small towns in this region, Grantsburg is a community struggling to hold its place culturally and economically.

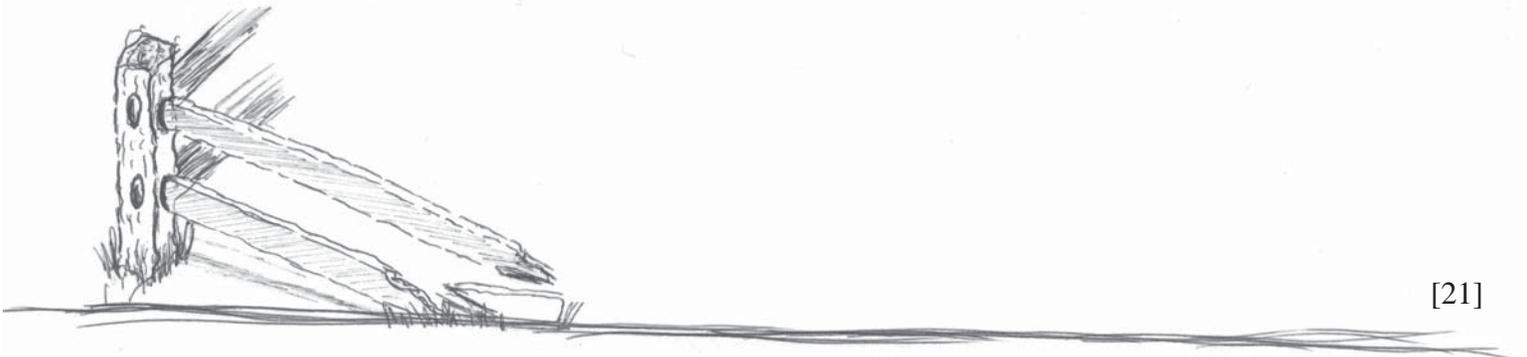
SITE INFORMATION



The site is located approximately one-half mile to the north of the intersection of Highway 87 and Highway 70 in Grantsburg. Located near the center of town, the site will allow easy access for both members of the community living in town and those living in the surrounding areas. The site is also located approximately one mile from the Grantsburg School System.



Google Earth

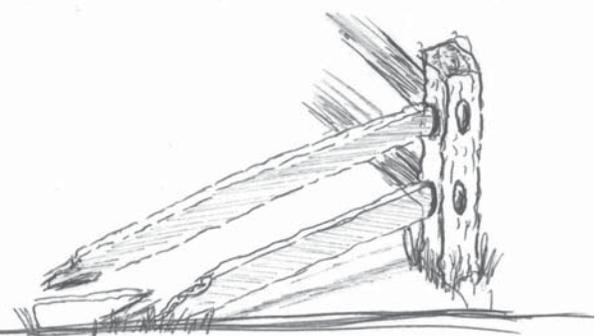


Located at approximately 45° 46' 40" N, 92° 40' 54" W at an elevation of 928', the site is 275' wide and 220' long. It is accessible from S. Pine St., which borders the site on the west side, and E. Broadway Ave., which borders the site on the south side. The site is bordered on the north by a business block and on the east by a residential block. The site is conveniently located near the center of town providing both easy pedestrian access and convenient vehicular access.



Google Earth

Highway 87



PROJECT EMPHASIS

Based on the assumption that buildings are more than just physical structures and have the ability to evoke reactions and emotions from their users, this project will take an in-depth look at how the architecture of a building can encourage people to gather in a manner that promotes communication, the sharing of knowledge, and a sense of communal pride.

With the goal of helping rural America stay viable in the twenty-first century, the creation of a multi-use community center will give local residents a place to gather. Here they can gain and share knowledge, express concerns for the community, and through both social interaction and an interaction with the structure itself, feel a sense of pride in where their community has come from and where it is going.



The sum of five major avenues will create the whole of the research for this thesis project. First and foremost, research will be conducted in an attempt to gain a fuller understanding of the theoretical premise and underlying idea. The results of that initial research will be coupled with additional research to include the project typology, the historical context, site analysis, and the program requirements.

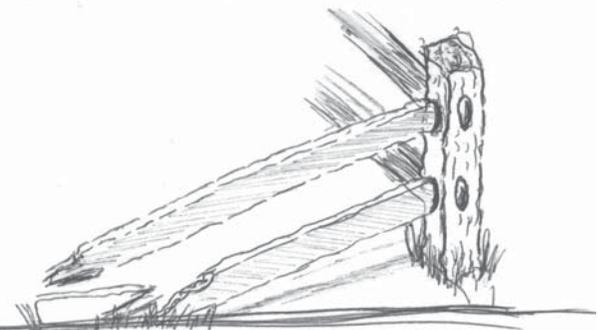
RESEARCH DIRECTION

A mixed-method model of research will be employed throughout the thesis. This model will suit the need for gathering both qualitative data. The data will be gathered and analyzed simultaneously which will allow the analysis to guide further research. The compilation of the results from each of the avenues prescribed in the research direction will provide both a base and a guide for further design.

DESIGN METHODOLOGY

To ensure good records are kept throughout the design process, all documents, including sketches, drawings, and models, will be digitally documented on a biweekly basis. The original documents will also be preserved and catalogued in appropriate binders and folders.

DOCUMENTATION OF DESIGN



STUDIO EXPERIENCE

FIRST YEAR

2006-2007

Spring Semester

Arch 172 - Stephen Wischer
spatial configurations
critical thinking & problem solving

SECOND YEAR

2007-2008

Fall Semester

Arch 271 - Darryl Booker
tea house
rowing club

Spring Semester

Arch 272 - Stephen Wischer
house for a detective
felt arrows

THIRD YEAR

2008-2009

Fall Semester

Arch 371 - Cindy Urness
larl regional library

Spring Semester

Arch 372 - Steve Martins
childrens museum of motion
native american center

FOURTH YEAR

2009-2010

Fall Semester

Arch 471 - Don Faulkner
highrise - unity square towers

Spring Semester

Arch 472 - Booker, Glys, Kratky
barrio

FIFTH YEAR

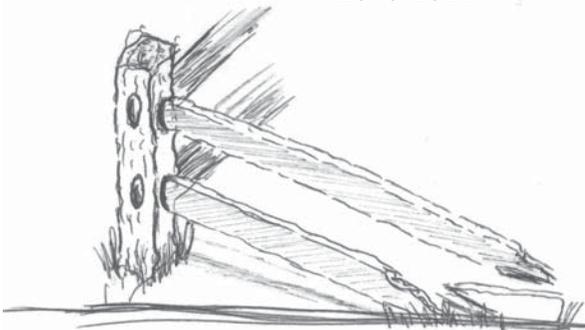
2010-2011

Fall Semester

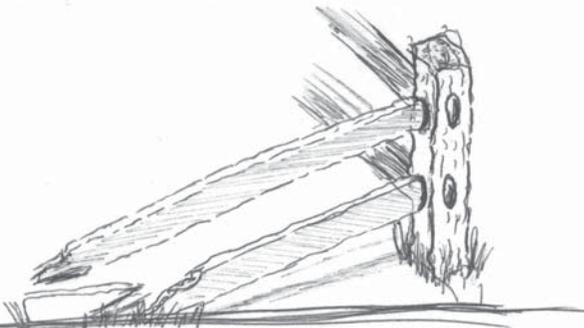
Arch 771 - Steve Martins
adaptive re-use; florence, sd.

Spring Semester

Arch 772 - David Crutchfield
Thesis



PROGRAM DOCUMENT



THEORETICAL PREMISE RESEARCH

RESEARCH

“I warn my countrymen, that the great recent progress made in city life is not a full measure of our civilization; for our civilization rests at bottom on... the completeness, as well as the prosperity, of life in the country.”

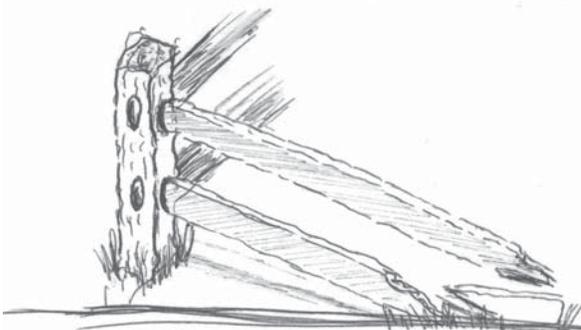
President Roosevelt, 1908

The primary portion of this research will attempt to explore many of the socioeconomic factors that affect rural communities. The goal will be to identify factors that are somewhat universal across rural communities in midwestern America.

The factors that have been discovered and will be discussed are population fluctuation, small businesses, education, and community involvement. Each factor will be explored with the goal of unearthing not only its negative effects on the community but the potential for positive influence.

Population:

There are two factors that affect the population growth of communities. The first is the natural change, which is the difference between the



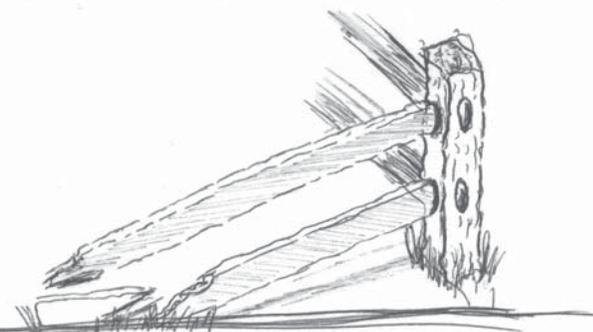
birth and death rates within a community. The second factor is the movement of people, referred to as in-migration and out-migration. Each of these factors has its own unique set of causal relationships as well as shared ones.

Since it is not possible to consider these two factors completely independent of one another, we will look at them in conjunction. The population change in any community is directly related to the combination of the ratios of births to deaths and in-migration to out-migration.

Why rural populations decrease:

As the USDA reports, a decrease in birth rates in agricultural communities has been attributed to an increase in farm industrialization. Simply put, machinery allows for fewer hands to do more work. This leads to each successive generation having fewer children than the generation before them and thus leads to a higher death rate and a lower birth rate. Although the largest influence from this cause occurred most recently in the 1980s, it still has an affect today in the form of out-migration.

Lower birth rates can also be attributed to an out-migration of young adults. When young adults leave their family and their hometown in favor of more urban areas they remove both themselves and their potential children



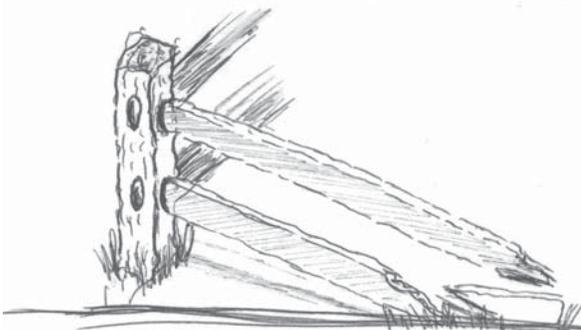
from the population. Their leaving is often attributed to more amenities and employment opportunities available in urban areas.

Oftentimes rural communities lack the amenities that can be provided in larger communities simply due to the lack of patrons to support them. These amenities could include, but are not limited to museums, theaters and performing arts, and sporting events. On the other hand, rural communities can offer amenities that are hard to find in urban areas, including accessible natural green space and numerous outdoor activities.

Why rural populations increase:

An increase in birth rates will show a direct increase in total population; however, this is not typically seen in communities of white ethnicity. It is more common in Native American and some Hispanic communities. For more than a generation now, deaths have outnumbered births in many U.S. counties, contributing to overall population loss. (Cromartie, 2009).

In migration of new members to the community can be subdivided into two categories: working individuals and retired individuals. In migrants who are working aged members of the community can come for several reasons. An increase in technology has allowed many businesses to expand from

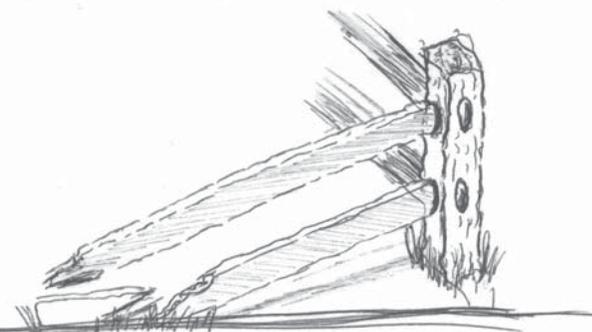


within the walls of their traditional urban office setting, providing opportunity for employees to be located further from the main office. This in-migration can also be attributed to young families looking for a specific community attributes, such as lower crime rate, quality education, proximity to extended family, or to begin a family of their own. These scenarios increase the population of rural communities in a positive manner.

On the other hand, an increase of in migration of retiring individuals, although it does increase the population, puts a strain on the community. The older portion of the population tends to require more health care, which is often expensive to provide in rural locations. Retiree-aged individuals are often living on social security, so their contribution to the community is far less than that of younger community members.

Employment Opportunity

The change in rural population growth has also been found to relate to the overall national economy. Rural communities as a whole saw a surge of in-migration in the 1970s due to baby boomers entering the work force and creating stronger competition for urban jobs and an increase in housing that took place in part in the form of suburban expansion that sprawled into regions that were typically defined as rural areas (Cromartie, 2009).

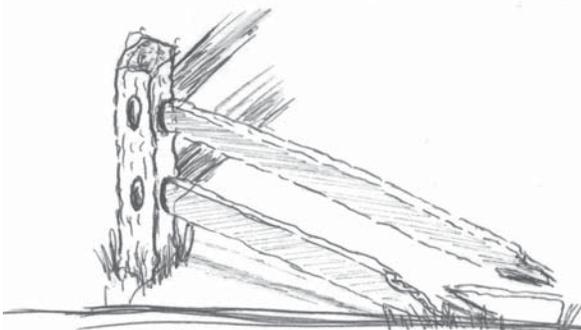


This increase of in-migration was short lived due to an economic recession focused on goods-producing industries that occurred in the 1980s. This rural-based recession caused an increase in out-migration. In the 1990s, rural areas again saw an in-migration of individuals affected by a metro-focused economic recession. This surge of in-migration ended later in the decade but has begun again with the current economic conditions of the nation.

Whether or not rural communities will see a decrease in population as the national economy begins to gain strength remains to be seen, but past experiences show that when the urban job market surges, rural communities struggle to retain residents.

Sustaining Small Businesses

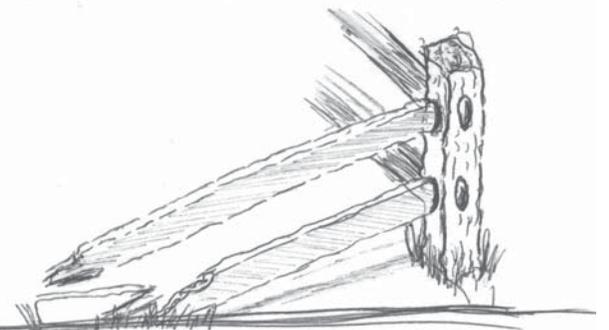
Part of sustaining a small rural community comes in the form of buying local products. Purchasing goods from local retailers has three distinct effects on the community. First, it creates business which increases the demand for local jobs. Second, it keeps the money circulating within the community. Lastly, taxes on local purchases help provide funding for local and state governments, which in turn use that money to provide services for the community.



According to the U.S. Census Bureau report in 2010, retail e-commerce sales reached an all-time high of \$142 billion in 2008. This figure was up 3.3 percent from the \$137 billion reported in 2007. This shows that e-commerce sales account for almost all of the 3.6 percent increase in total retail sales. It is evident through these figures that with more people shopping on-line they are doing less business locally, which reduces the need for local retail stores and services, thus reducing local jobs and taking money out of the community.

Education

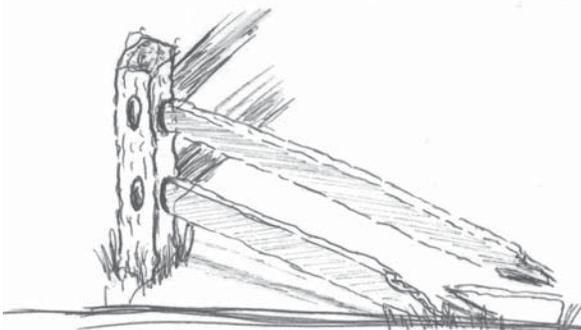
The common belief that the cost of education per pupil decreases as the size of the school increases has been used in the argument for the consolidation of school districts for years, but that may not be the case. Facts presented in a collection of resources and data by the Penn State College of Education show that consolidating schools may not be the answer. In fact, they point out that small schools take a “prominent position ... in the economic and social development of community.” They also state that smaller schools attain higher levels of academic achievement, and show lower dropout rates. Yet even with the factual evidence against consolidating schools for financial and educational reasons, many states continue to force the issue.



Between 1990 and 2000, West Virginia closed 202 schools through consolidation and another 80 from 2000 to 2002, yet increased educational spending by 16 percent only to see their efforts pay off by an 11 percent decrease in enrollment (Reeves, Jan. 2004).

Furthermore, a survey report by Sell, Leistriz, and Thompson, about school district consolidations in North Dakota found alarming results. By tracking communities affected by consolidation the survey found that while community participation in school events rose in the host community (location of consolidated schools) it declined in the vacated (school closing) communities. In both communities there was a decline in retail trade and local businesses as well as quality of life scores.

Education does not have to stop with the completion of high school. Rural community colleges offer an excellent alternative to university education. In an article titled “Rural Community Colleges” published by the USDA in their magazine “Rural America,” it was stated that rural community colleges have stepped up their curriculum to keep up with the educational demands of today’s society. Although many students at rural community colleges plan to go on to attain a four year degree at a university, others attend to gain a set of specific skills to ready themselves for the workforce in only two years.

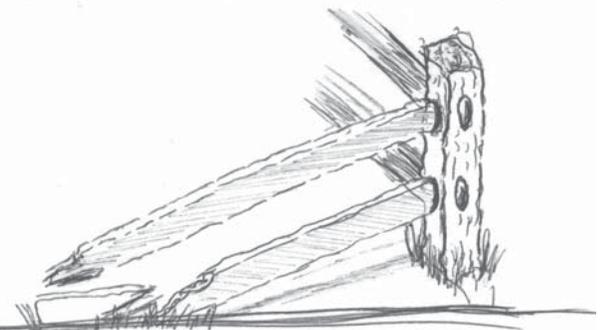


Community Involvement

This may be one of the most important factors to consider. Getting community members involved in community goals, planning, and decisions will evoke a sense of pride and self-worth among the community members. Those three items: goals, planning, and decisions are things that architects are commonly involved with in rural communities.

SMARTE.org, a website dedicated to helping guide communities through revitalization projects, stresses the importance of community involvement.

“Community involvement should be used to generate not only ideas for revitalization projects and their implementation, but also ideas to further improve existing project features. Revitalization can be facilitated and enhanced by finding out what the community needs, what will benefit the community, what has been tried in the past, and what could be done to improve past ideas. Community members, when given an opportunity to be informed and involved in the revitalization process, are or can be a critical factor to a project’s success. Community members may have special issues or concerns that, if incorporated into a project at the outset, may help to reduce the likelihood of challenges to risk assessment results, and



potential remediation or revitalization plans (SMATRe).”

Architects cannot create jobs, make students learn or increase birth rates, but they can contribute to safe, healthy, interactive communities that attract young individuals to the community, get involved, gain employment, establish a family, and maintain a lifelong residence.

The nation’s longest running agricultural organization, The Grange, has helped rural communities for more than 140 years. Their mission statement gives good direction for the type of foundation rural communities need to establish in order to maintain and grow a healthy population, sustain quality businesses that employ community members locally, and educate the next generation of proud rural residents.

The Grange mission statement:

“The Grange provides opportunities for individuals and families to develop to their highest potential in order to build stronger communities and states, as well as a stronger nation” (National Grange 2010).



The organization plans to accomplish its goal in these ways.

FELLOWSHIP

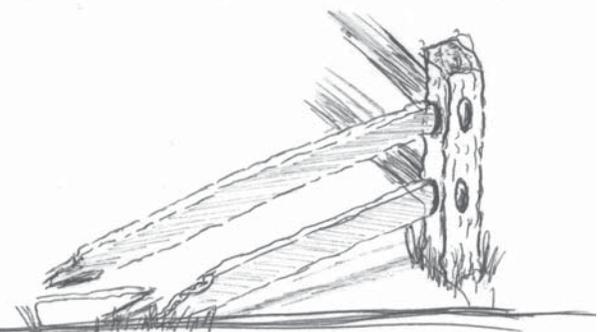
“-We give our members the opportunity to meet with and get to know their neighbors in a safe, family-friendly atmosphere

-We provide a place where children, youth, and adults can grow, develop their talents and social skills, and learn leadership techniques”
(National Grange, 2010)

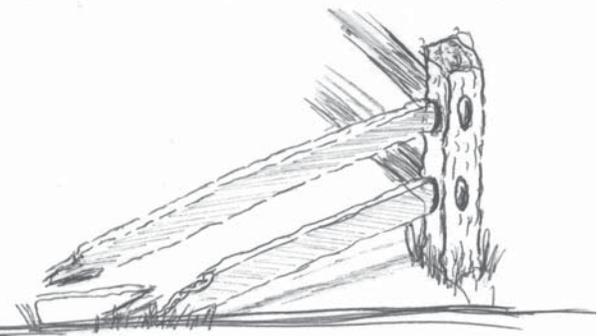
SERVICE

“-We provide our members with the opportunity to discover and solve community needs

-We give assistance to individuals in crisis
-We provide a great place for community networking” (National Grange, 2010)







SUMMARY

The research shows that there are a number of factors that can and do contribute to the failure or success of small towns in rural America. These issues need to be addressed by the community as a whole in order to create a long-lasting, prosperous community.

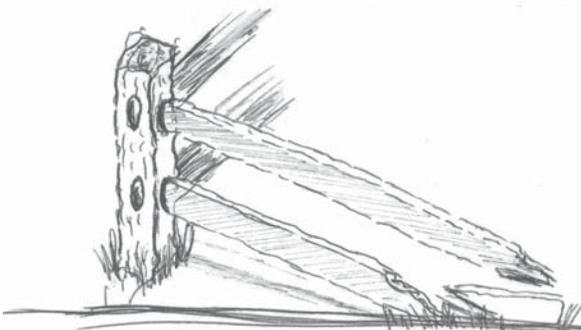
Population

Rural communities need to find a way to stabilize their population change. Birth rates in the nation as a whole have slowed for several generations, but the problem more specific to rural communities is out-migration of working, child-bearing aged people. They out-migrate for two primary reasons: employment opportunities and amenities. The majority of the in-migration in rural communities tends to be retirees who then make up a larger ratio of the population than the national average and put a strain on the community.

Rural communities need to develop a way to attract young adults and families to the community. This should be accomplished by creating a stable job market, a safe and healthy community, and providing as many amenities as possible.

Sustaining Small Businesses

Community support of local “mom and



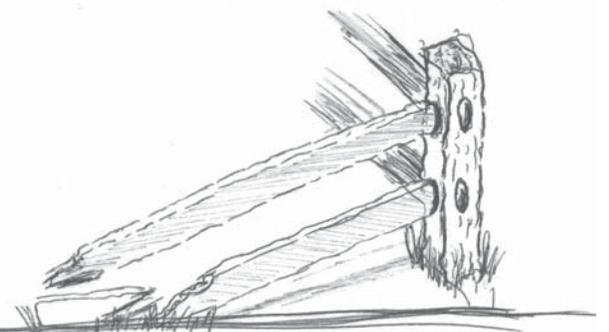
pop” businesses will help the community in three distinct ways. First, it will create more local jobs. Second, it will keep money circulating within the community. Lastly, taxes generated from the sales will help local governments maintain and improve community infrastructure.

Education

Contrary to popular belief, consolidating schools may not be the best move for either the students or the surrounding community. Research shows that when schools are consolidated, the vacated community sees less interest in school programs and both communities see a loss of local business and a decline in quality of life scores.

Communities need to find ways of sustaining their local educational system in a green and cost-effective manner. By doing so, they can maintain the population they have and use the increased educational value of rural schools to attract new community members.

Rural communities also need to look into the value of community colleges as a way of bringing young, ambitious individuals into a community so that they can receive a quality education and specific skill set to prepare them for a life of success within the rural community setting.

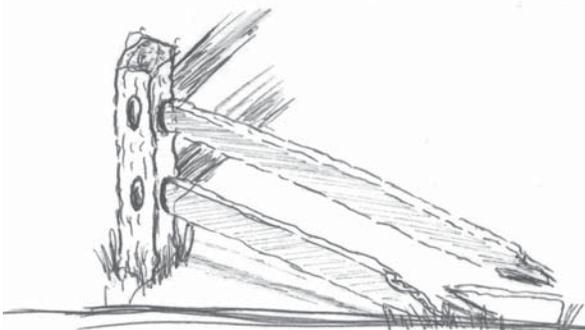


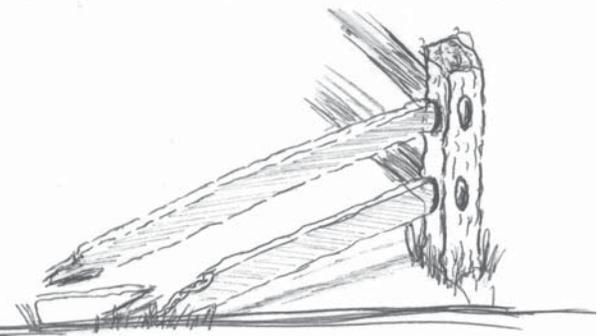
Community Involvement

Getting people involved in their own community is a great way to increase the amount of pride people have for the places they live, work, and play. Whether it is done through community meetings to define short and long-term goals or increasing community participation at school sporting events, community involvement is the key to maintaining a successful and prosperous community.

The Grange lays out two key components under their fellowship heading:

“-We give our members the opportunity to meet with and get to know their neighbors in a safe, family-friendly atmosphere
-We provide a place where children, youth, and adults can grow, develop their talents and social skills, and learn leadership techniques” (National Grange, 2010)





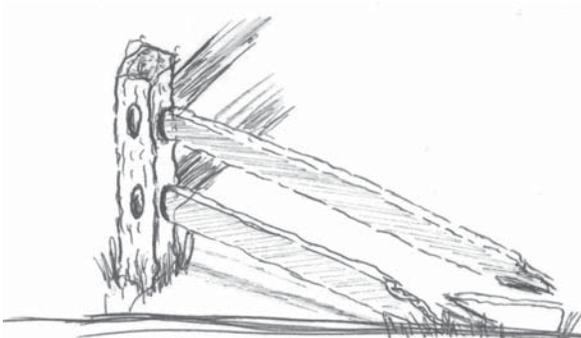
CASE STUDIES

Gleneagles
Community
Center
West Vancouver,
British Columbia



Williamsburg
Community
Center
Brooklyn,
New York

Coal
Harbour
Community
Centre
Vancouver,
British Columbia



Photos from Archrecord.com

Gleneagles Community Centre

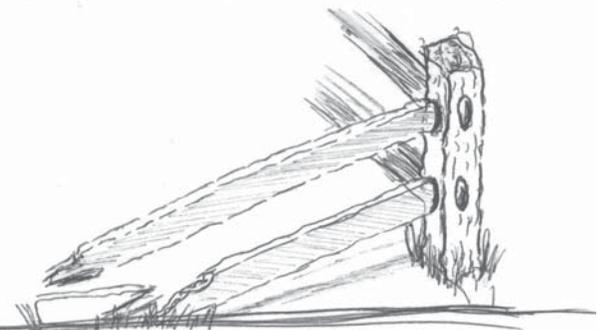
Introduction

The Gleneagles Community Centre located in West Vancouver, British Columbia was designed by Patkau Architects and completed in 2003. The goal of this \$4 million, 24,000 square-foot project was to incorporate green design into a communal recreation facility for the residents of West Vancouver.

Findings

The facility consists of a gymnasium, a multipurpose room, a fitness center and a child care area. These major elements are laid out through three levels. The three separate levels are given a unified feeling by the volume of the gymnasium space, which rises through all three floors and provides a visual connection throughout the building. An abundance of glazed walls, both exterior and interior, allow for a visual sense of excitement by being able to see the activity of others around you.

At its completion the building was the first public building in North America to use a thermo-active radiant heating and cooling system. Pipes run through the concrete walls and floors circulate hot or cold water, allowing the large masses to radiate the desired temperature. This system provides for a more constant temperature even when doors are



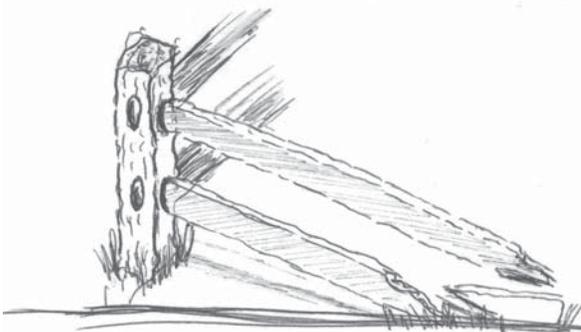
opened and closed (Gleneagles Community Center, 2010).

Analysis

The combination of four major materials gives the building a unique look and feeling. Cast in place and tilt-up concrete give the building a very grounded feeling. The heaviness of these elements shows permanency and longevity. Stemming from the solid concrete base, exposed glue laminated wood beams and heavy timber support the roof and other elements in a more permeable way. The wood elements also relate to the natural surroundings of the building and seem to make it “fit” in place.

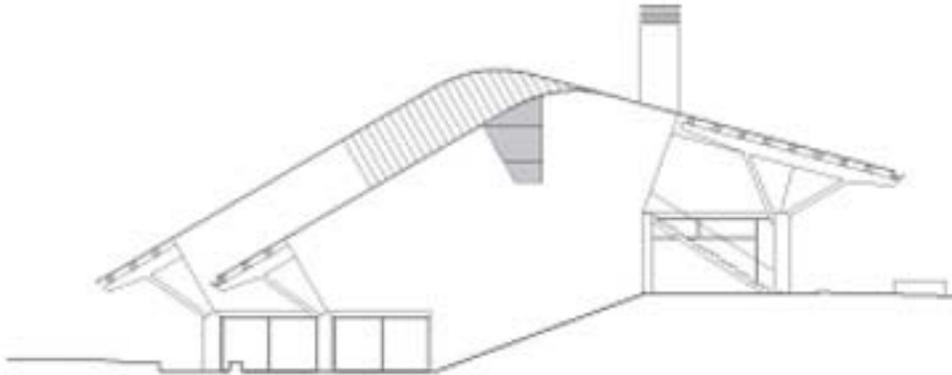
Filling the gaps, large expanses of glazing open the structure up for both great lines of sight within the building and great views through the exterior skin. This openness is a key element to creating human movement and social interaction within the structure. By allowing patrons to see other activities occurring within the building there is a rise in energy.

The standing seam metal roof puts a fitting cap on the structure. It separates the interior spaces from the exterior elements without compressing the spaces within. This encourages vertical movement in a very similar manner to the horizontal movement encouraged by the glazing.

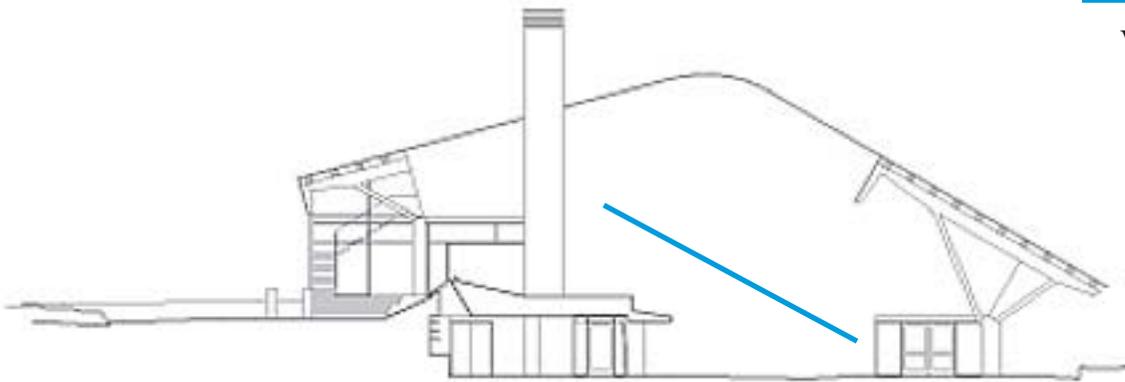


Conclusion

Overall the building is inviting. The extensive glazing combined with the two-part structure create a unique sense of life within the building.



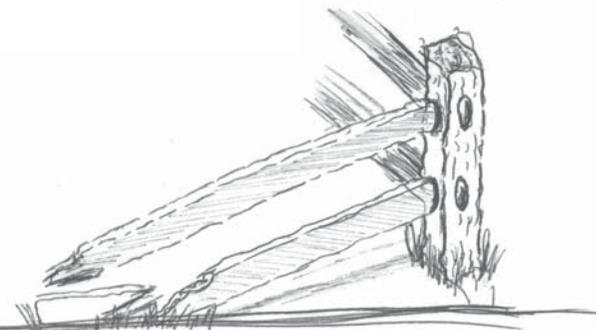
3. South Elevation

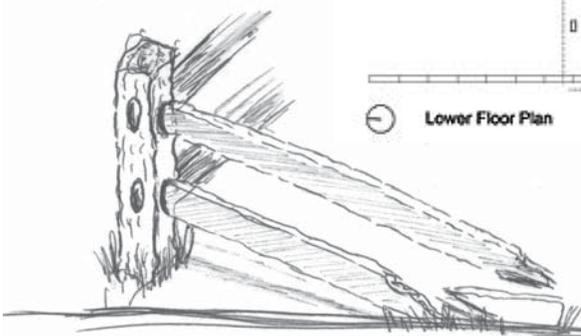
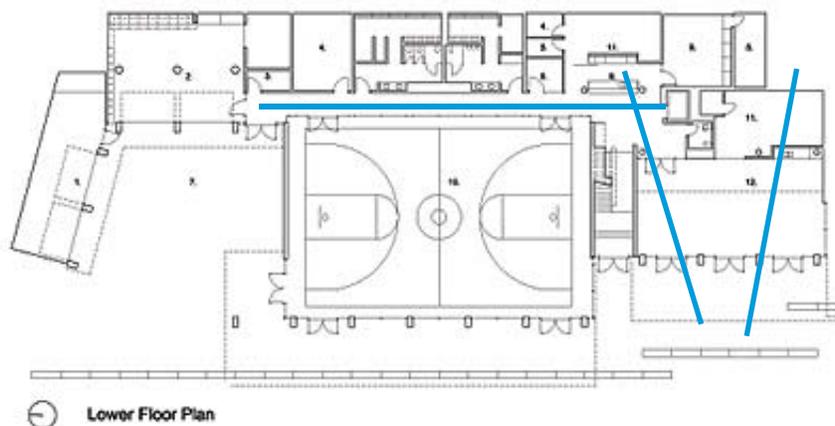
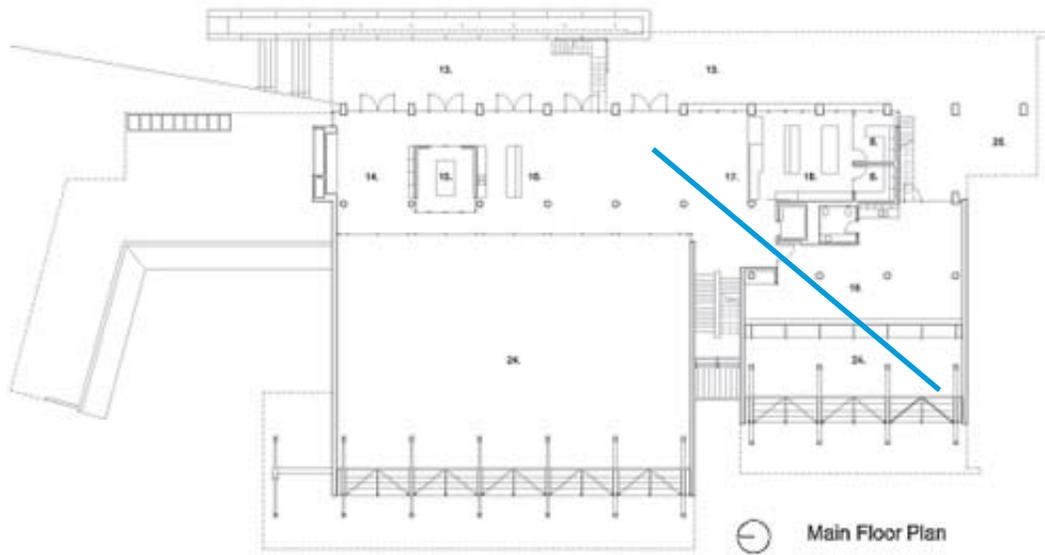
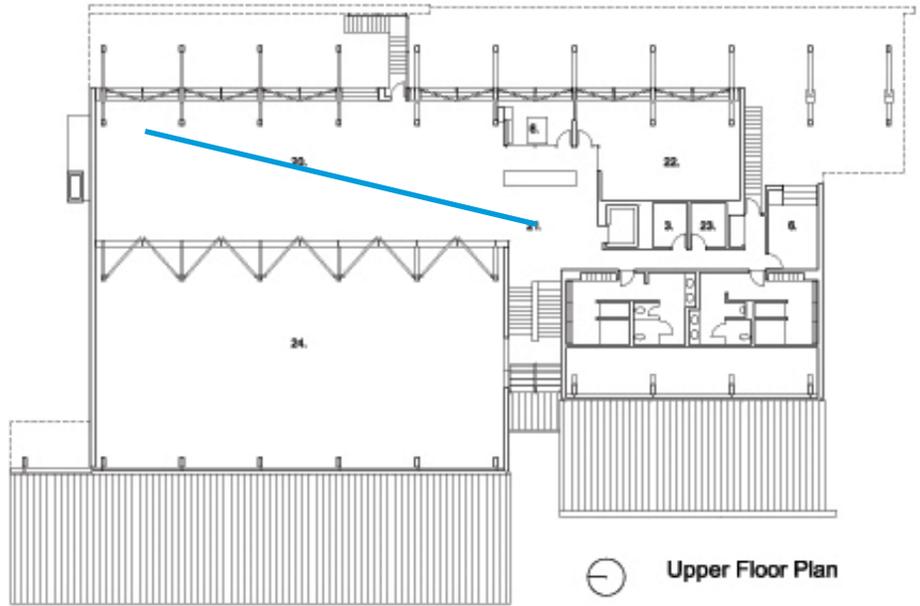


4. North Elevation

Views

Photos/images from Archrecord.com





Photos/images from Archrecord.com

Williamsburg Community Center

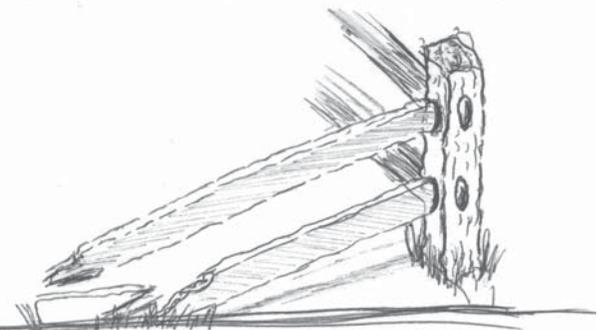
Introduction

The Williamsburg Community Center, located in Brooklyn, New York was designed by Pasanella + Klein Stolzman + Berg Architects, P.C. as part of a project undertaken by the New York Housing Authority that involved renovating the adjoining park and 24 of the residential structures that surround it.

Findings

The center is designed to meet a multitude of needs. The program for the building outlined a structure that would serve the day-to-day needs of neighborhood children, youth and adults as well as provide space for special events. Day-to-day functions within the building take place in areas including a gymnasium, dance studio, classrooms, computer rooms and a multitude of other spaces. The commercial kitchen is used to serve meals to senior citizens year-round and to school children during the summer months when they do not attend school. The kitchen is also used for catering large events such as weddings.

The facility was thought out as a series of pavilions that actually make the structure feel like an extension of the park. This “connected module” formation also gives nearly every interior space both a visual and physical



connection to the outside (Williamsburg Community Center, 2010).

Analysis

The openness of the planning and construction are quite impressive. By spreading the building out in a series of connected modules, the area-to-perimeter ratio is decreased, thus providing for thinner interior spaces that have great views and access to the outside.

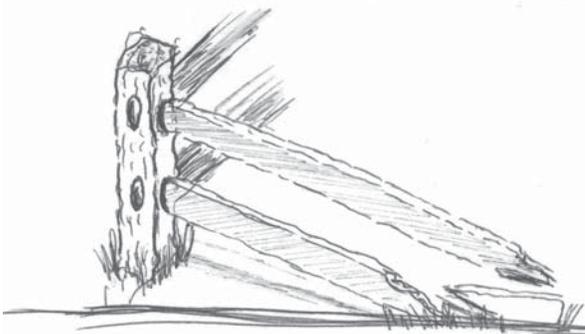
This design also allows for the center to be fully open, fully closed and almost anywhere in between, creating an ideal way to provide security for parts of the building that are not in use.

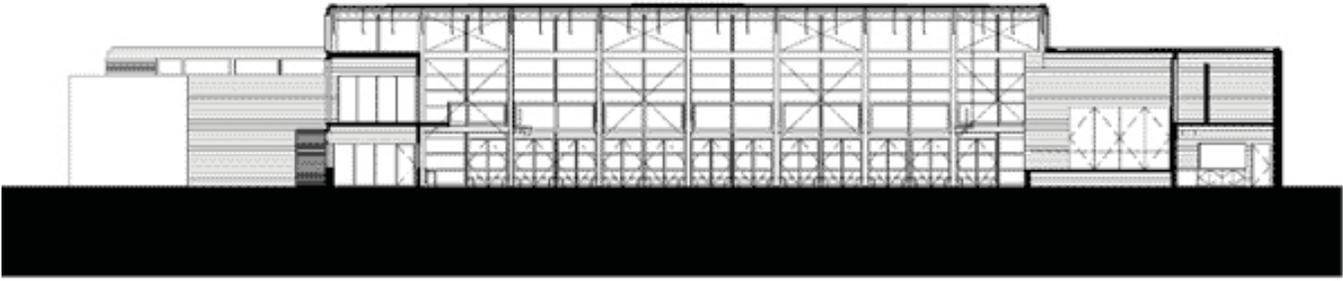
Inside the building, large movable partitions are used to allow for space flexibility, ensuring the facility has just the right room for the activities that will occur.

As in the last case study, large amounts of glazing are used to soften the barrier between inside and outside. I feel this is an especially important element of the design given the center's incorporation into the surrounding park.

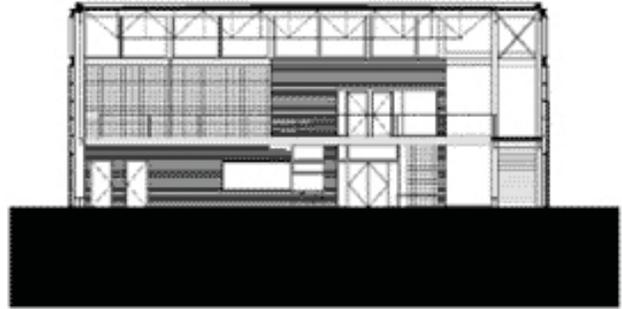
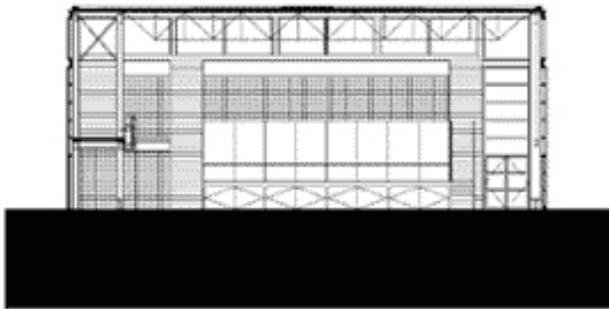
Conclusion

Again we see an extensive use of glazing to create the exterior skin of the building. In this case it was used to give the pavilion-style structure a strong connection to the surrounding park.

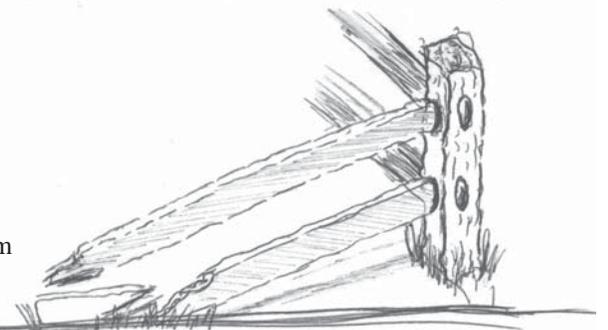


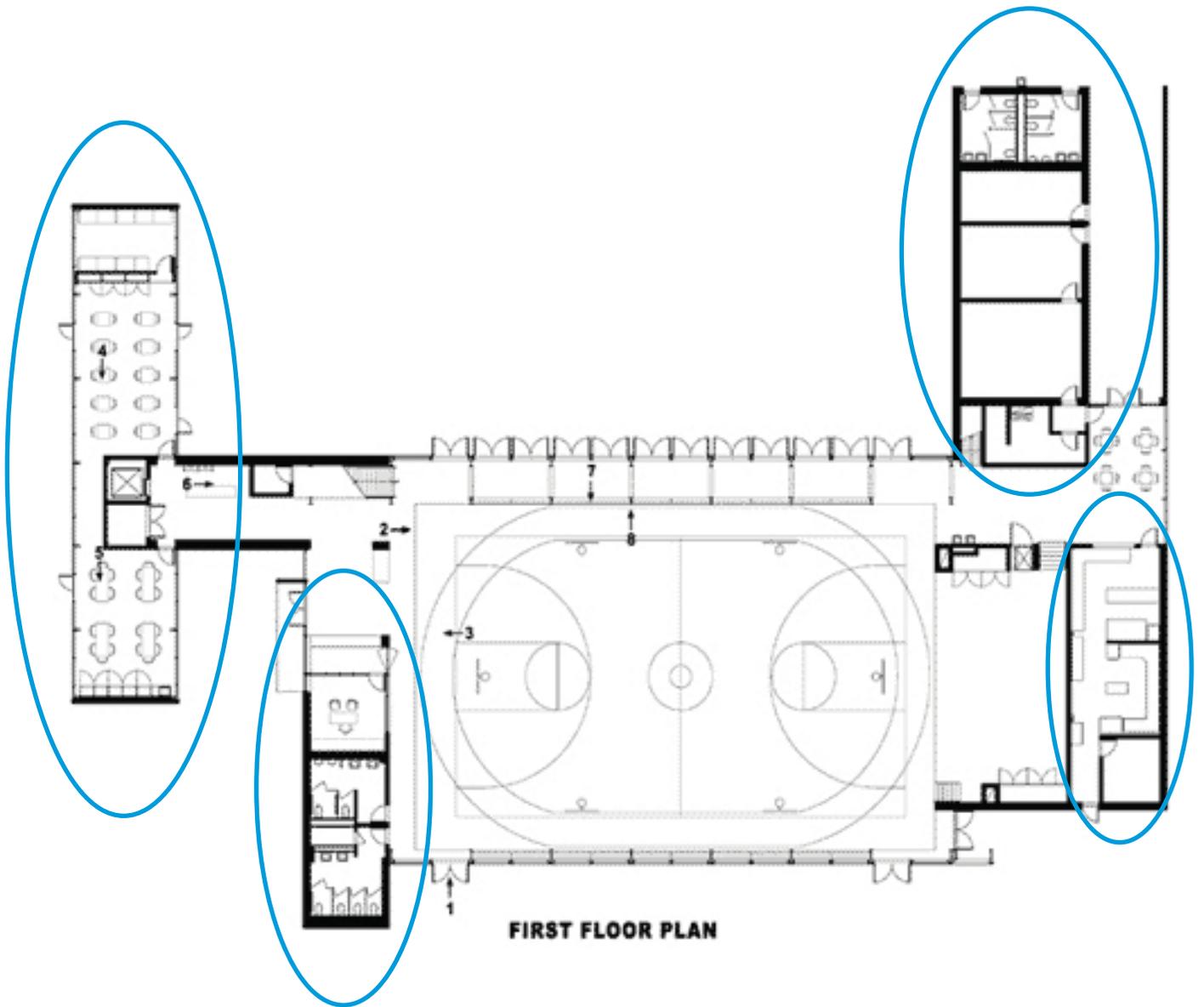


LONGITUDINAL SECTION

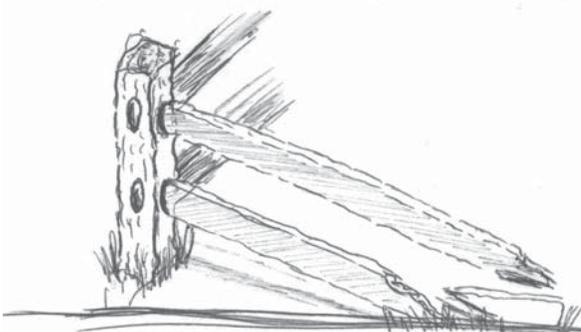


TRANSVERSE SECTIONS





○ Pavilion-like elements



Photos/images from Archrecord.com

Coal Harbour Community Centre

Introduction

The Coal Harbour Community Centre located in Vancouver, British Columbia was designed by Henriquez Partners Architects. The project is the beginning of a larger plan to create a viable community of approximately 5,000 residents at what was in the past no more than a bleak “end of the line” for the Trans Canadian Railroad. The long-term plan involves the completion of residential towers, a school, and other facilities.

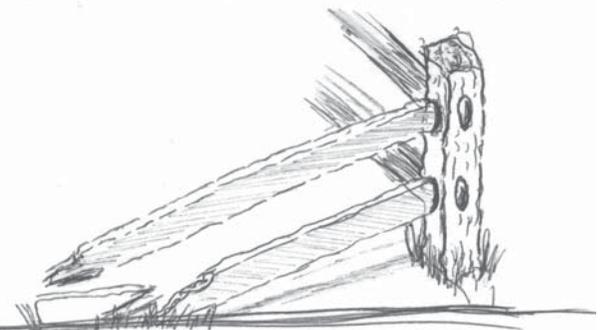
Findings

Like the other case studies, the center is designed to meet many different needs ranging from leisure areas to a large gym and multi-use space that overlooks the marina.

With limited space to work in, the architects neatly tucked the structure into a 16 foot grade change between the adjacent park above and the marina below.

Cast-in-place concrete is used to tie the project together. It starts by grounding the project in the hillside. Next it forms a large portion of the enclosure for the structure before it winds its way out from the building to create other unique elements such as benches and paths.

Being partially set underground causes less interruption both physically and in view to the park located just up the hill. This feature



also provides stabilization for the building in the case of an earthquake. Although on land, the building takes on some abstract qualities of the ships in the marina, including large porthole windows and mast-like protrusions above ground (Olson, 2002).

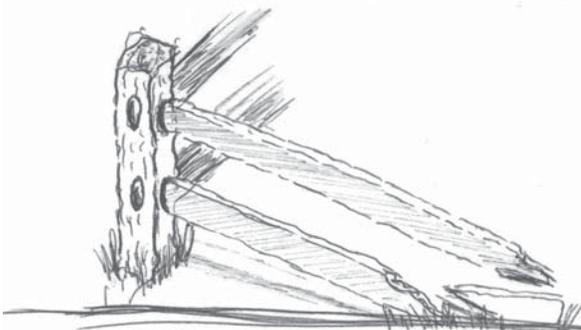
Analysis

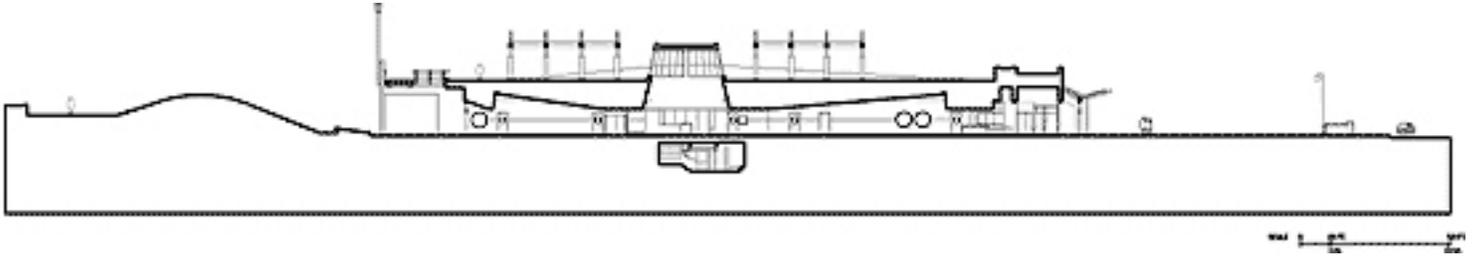
The main entry is accessible and inviting whether visitors arrive by car or from the waterfront. This element is key to attracting people into the building. Once inside, the lobby is a calm space with spectacular views of the marina where one can sip hot coffee from the coffee bar.

The architects did an astounding job of giving the center a sense of place. Locating the structure within the hillside preserves the views of the marina from the park above yet allows specific spaces within the building to have their own views. The “fit” of the building is also enhanced by the abstract ship qualities that are displayed within the center.

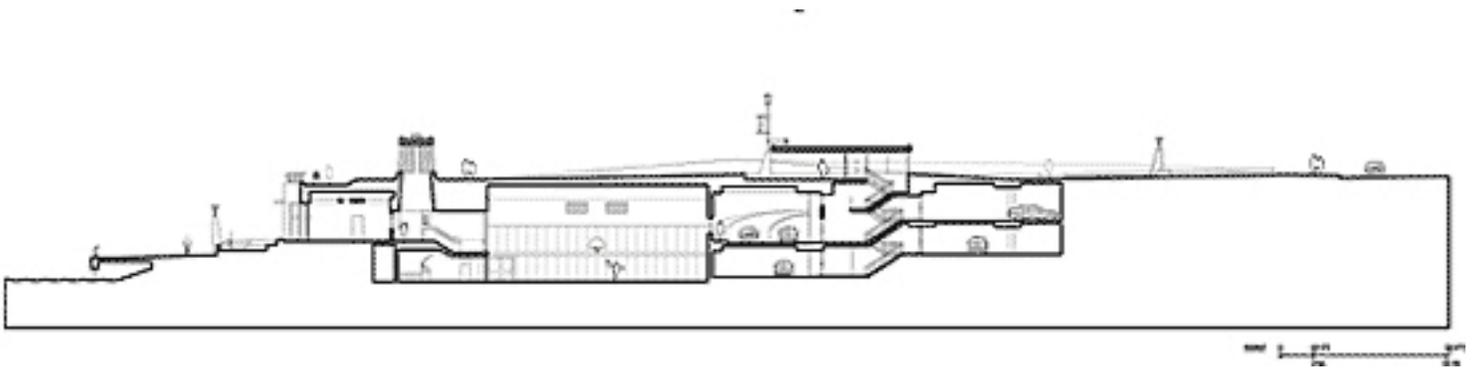
Conclusion

Of the three case studies, this one demonstrates the best relationship between the building, the site, and the community around it. Nestled into the banks of the marina and taking on ship-like qualities of its own, the center definitely belongs there.



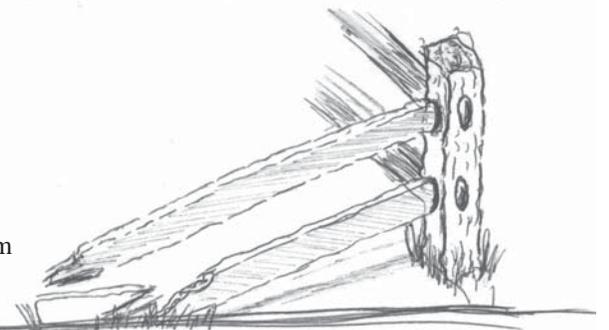


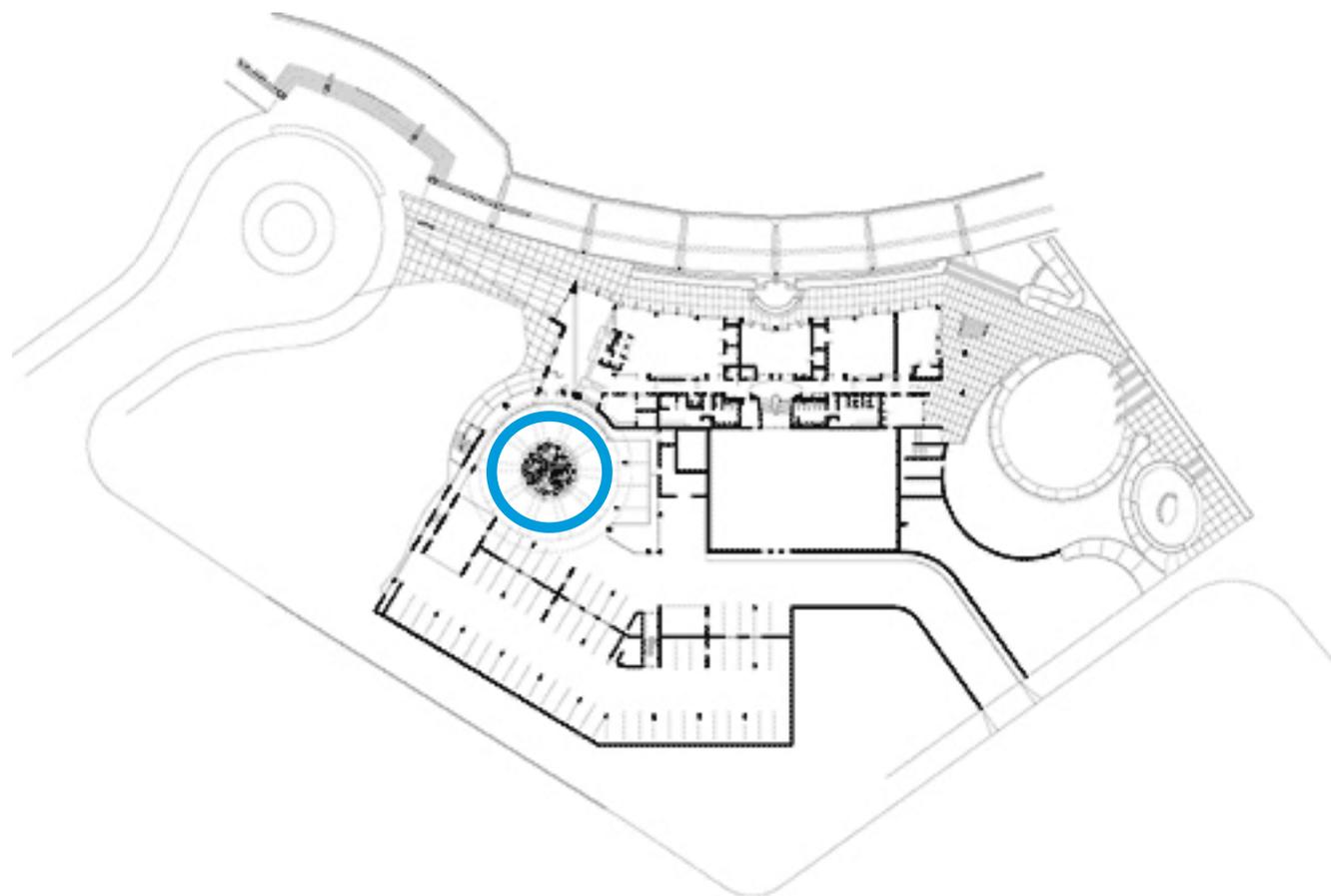
One can clearly see in this section how the center borrows several abstract qualities from the ships in the marina.



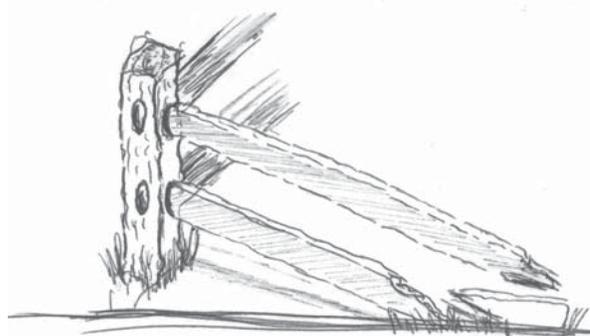
This section clearly shows how setting the structure down in the hillside preserved the integrity of the views and skyline as seen from the park above.

Photos/images from Archrecord.com

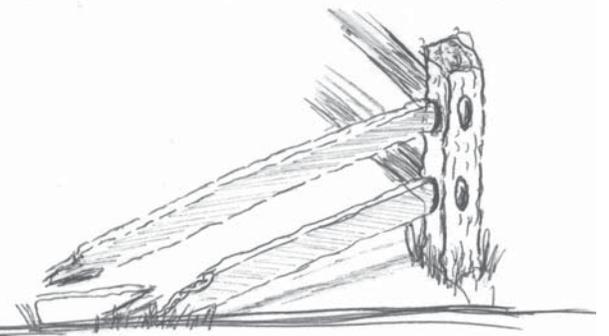




The grand entry to the center can be experienced by approaching from the waterfront or from land. By having the last major outdoor element before going inside be a circle (see above) it ensures that no matter the approach angle, one always feel in line with the entry.



Photos/images from Archrecord.com



SUMMARY

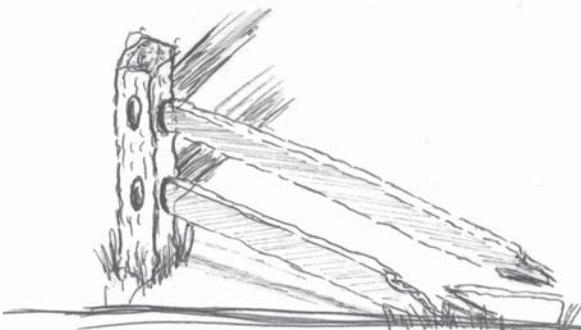
After the case studies it is clear that even though each project has its own unique features there are several very strong elements and ideas that appear multiple times. First, the projects were specifically tailored to each community and its site. Next, the designers were careful to ground the building in a manner that gave a sense of permanence, yet was still inviting. Last, but certainly not least, the projects were part of a larger plan for sustaining the community.

Each of the projects had multiple elements that tailored it both to the site and the surrounding community. The Center in Gleneagles used exposed timber and glue-laminated beams to relate the building to the natural environment and timber country in which it is located.

The Center in Williamsburg made itself at home within the park. By breaking down the functions of the buildings and then giving each of them their own pavilion-like branch, the overall structure fits nicely into its park setting.

The boat-like qualities, combined with its discrete interruption to the landscape, skyline, and marina views make the location of the center at Coal Harbour part of the design. It incorporates the functions the community will need, recognizes the marina influence and preserves the surrounding nature.

The design of the skin of the building helps break down the barrier between interior



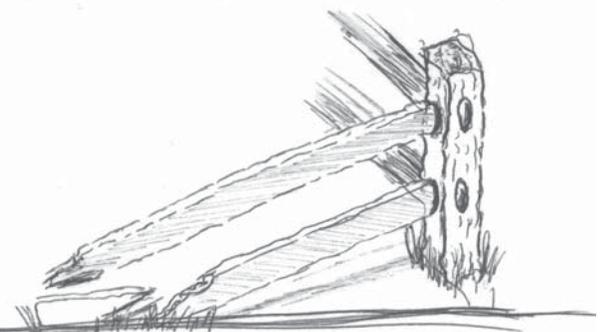
and exterior. A community center is not a place where one should feel shut in. In fact, it is exactly the opposite. For a community center to encourage activity, promote a social environment, and relate to the surrounding community it serves, the center must feel open to everyone.

Just like the community, a community center must have roots. Members of a community need to be able to see the solid permanence of the community center. It must be viewed as something stationary and everlasting, to inspire the same feeling about the community itself.

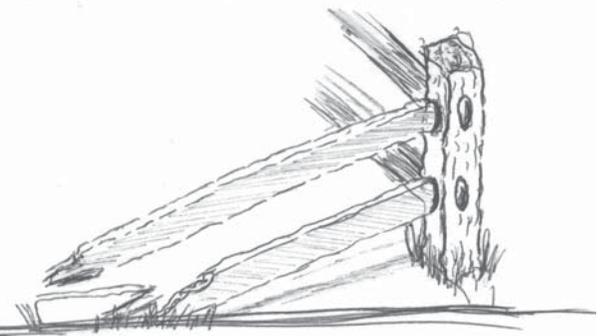
As can be seen in each of the case studies, the designers carefully balanced heavy portion of the structure designed to ground it both physically and psychologically with the light and translucent portions designed to “open the center up” to the community and its surroundings.

Both the Center in Williamsburg and the center in Coal Harbour were part of a larger plan. In Williamsburg that plan involved improving the adjoining park and a number of residences around it, and in Coal Harbour the community was constructing housing, a school, and a number of other necessities.

It is evident that a community center designed specifically for the community it is to serve can, especially if it is part of a larger plan, have a positive effect on the surrounding community.







HISTORICAL CONTEXT RESEARCH

RESEARCH

The foundation of rural community development in America probably stems from the first Europeans who set up colonies in the “new world.” One might also successfully argue that the idea of community living and support dates back to Native American tribes that both roamed and settled this continent long before the arrival of Europeans.

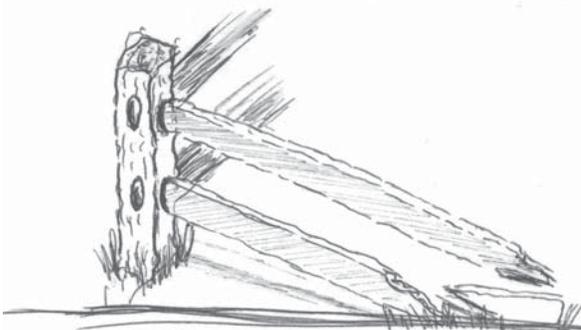
Taking a step forward from there, modern American communities formed in the midwest around the land itself. They based their economy on the harvesting of the land in forms of grain, cattle, logging, and mining. Communities also formed along paths of travel used to export these goods, first by lakes and rivers and then railroad lines.

The Grange

On December 4th, 1867 The Order of Patrons of Husbandry was formed. Today the organization is known simply as The Grange.

This grass roots organization was formed to provide services to members in rural areas. Their goals are to :

“provide service to agriculture and rural areas on a wide variety of issues, including economic development, education, family



endeavors, and legislation designed to assure a strong and viable Rural America” (National Grange, 2010).

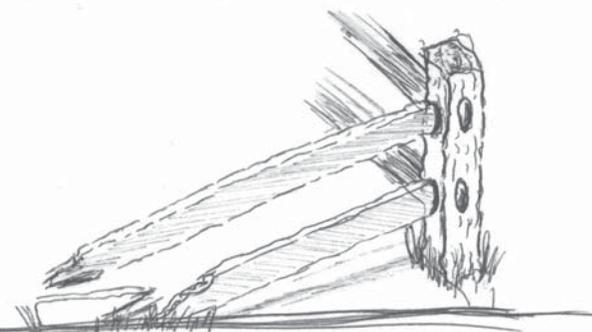
The Grange is divided into four levels. At the lowest level, the Subordinate (local) Grange handles local issues related to the community it acts within. This includes developing leadership and improving community life and opportunities for all community members. There are Subordinate Granges active in more than 2700 communities with approximately 200,000 members.

At the second level, the Pomona (county) Grange oversees the Subordinate Grange and provides leadership for education, legislative and business interests of the Subordinate Grange.

The third level, the State Grange, oversees the lower two levels and represents them in matters of legislation and public policy.

The fourth and highest level, the National Grange, is the parent branch that oversees all Grange activity.

Providing a place where both Subordinate and Pomona Grange activities can take place will allow the community access to the help and knowledge of a nearly 150-year-old organization solely dedicated to protecting and improving rural America.



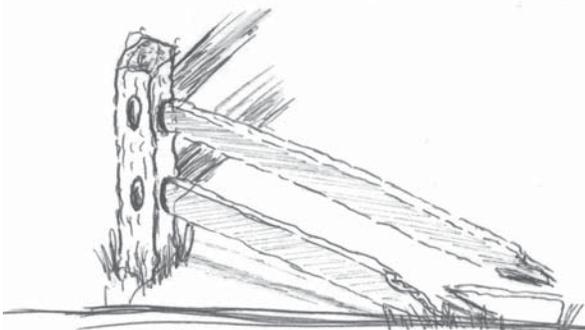
The Country Life Commission

For the 100-year anniversary of President Roosevelt's establishment of the Country Life Commission (CLC), which was formed in 1908, Timothy Collins assistant director of the Illinois Institute for Rural Affairs at Western Illinois University in Macomb, took a look back at what the CLC hoped to achieve and what effects it had on rural America.

In his article "Country Live Movement - Miles to go" (2009) Collins has this to say about the commission:

"Their suggested remedies took an institutional approach to communities, advocating reform of rural churches and schools as places that could bring about a better country life. Their remedies focused primarily on meeting human needs through community action and education."

Although the commission's report has been lost, it did have, and continues to have an impact on rural America today. Stemming from the CLC the American Country Life Association (ACLA) was formed. The ACLA acted as an advocate for rural Americans from the time of World War I until the 1970s. The American Farm Bureau Federation was founded in 1919 and helped ensure farmers

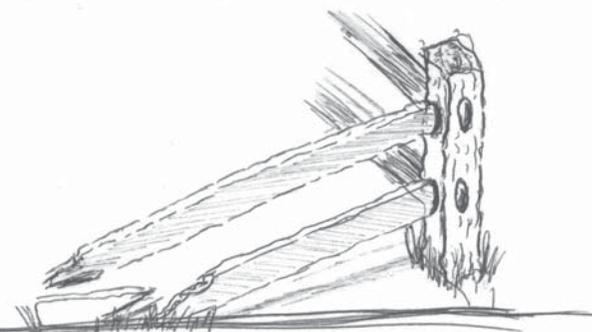


received a fair price for their grain and goods produced and sold.

The report produced by the CLC helped to lay the groundwork that rural communities stand on today. Collins may have said it best:

“It has taken a long time, but the commission’s efforts helped open the way for promoting rural sustainability with the goals of healthy local environments, social relationships, and economies. Rural community development has inherited its progressive ideals -- to foster democratic participation and build on practices that make communities better, more sustainable places to live in today’s challenging global economy.”

Prominent leaders of this country like President Roosevelt understood the importance rural America plays in the overall economy and function of our nation. As globalization and dense urban living push into the twenty-first century let us not forget rural America. Let us not forget the farmers, ranchers, and loggers that started rural communities, and let us not forget the “mom & pop” shops and industries that have sprung up in rural communities to provide goods, services, and jobs to local residents.



Grantsburg, Wisconsin

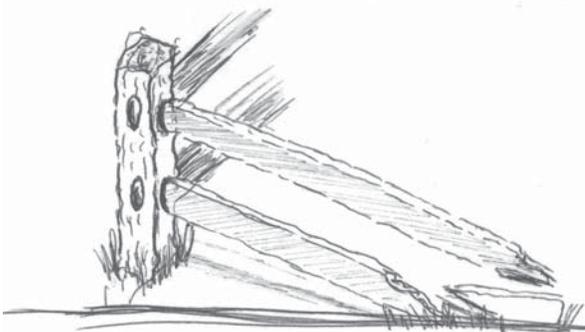
The town of Grantsburg, WI got its start in 1852-1853 when Canute Anderson spent the winter along the St. Croix River just north of what is present-day Grantsburg, a town that is named after General Ulysses S. Grant's victory at Vicksburg.

Credit for getting the town on the map is also given to Canute Anderson. He built a mill on the St. Croix River as well as a hotel and a store.

By 1875 the settlement had three stores, a hotel, two sawmills, a shingle mill, and a number of other businesses as well as two churches and a school.

The Village of Grantsburg was incorporated in 1886, at which time the census showed a population of 311 people in the village that covered just over 1200 acres.

Power came to the town in 1901 and was soon followed by the telegraph and telephone. At that time, power was provided by the Grantsburg Power and Light Company. Today the Farmers Independent Telephone Company provides telephone service to Grantsburg and the surrounding area. Power is provided to residents by the Northwestern Electric Company, which is owned by 390 community stockholders.

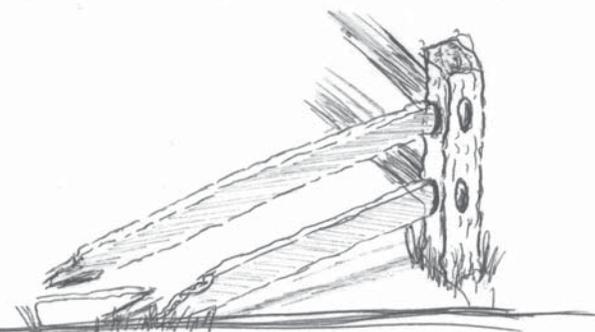


One “large” and prominent community member was Big Gust Anderson who resided in Grantsburg for 25 years and at 7’- 6” tall was easily recognizable as the village Marshal. His legacy lives on in the town’s annual celebration titled “Big Gust Days” (Grantsburg, 2003).

Most current agribusiness is handled through Burnett Dairy Co-op located just east of town. They handle the seed, fertilizer, and small equipment needs of local farmers and residents, as well as cheese for both the locals and visitors to the community.

As of July 2009 the towns population was 1328, up 3 percent from 2000 (Grantsburg, 2010).

In 2009 Grantsburg High School was ranked in the top two percent of high schools in the nation by a study done in collaboration between *News & World Report* and School Evaluation Services. This ranking, which was based on data from 21,069 schools, including student achievement, class offerings, and college readiness and earned the district a silver medal. This achievement comes one year after the district was awarded a bronze medal by the same study in 2008 (Grantsburg Schools, 2010).





GOALS

Academic

A Meaningful Theoretical Premise

The theoretical premise is the driving power behind the entire thesis project. The research conducted and the conclusions drawn from that research guide the physiological and psychological design of the building.

Comprehensive Research

The research of the theoretical premise must be completed in a comprehensive manner to ensure it covers the complete scope of the premise. Having a full understanding of the premise will help guide the project in a strong positive direction.

A Complete Design

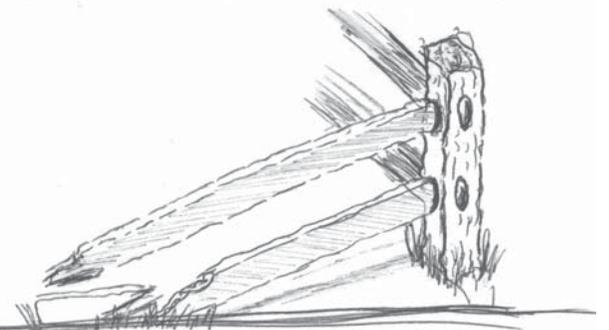
The success of the design will depend on its ability to relate to the theoretical premise. The design should attempt to resolve issues that were discovered during the research of the theoretical premise.

A Professional Level Presentation

For the design to be successful it needs to be presented in a well thought out, professional manner. This includes the drawing and graphics themselves, their layout, and the accompanying oral presentation.

A High Quality Thesis Manual

After my graduation, my thesis lives on through the thesis manual that will be accessible to



students, faculty, and professionals through the digital repository. It is of utmost important that the manual represent the wholeness of my research and the completeness of my design in the best way possible.

Professional

Demonstrate My Skill-set

My thesis project will be the last one I complete in the academic realm. Therefore it is important that the project demonstrate my skill-set in a manner that is at par with what is expected in the professional realm. The value of a quality thesis in a portfolio, in terms of gaining employment, is immeasurable.

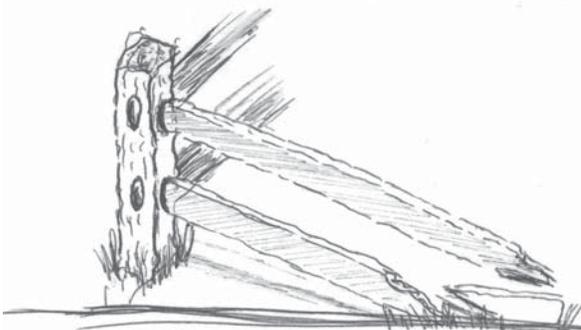
Personal

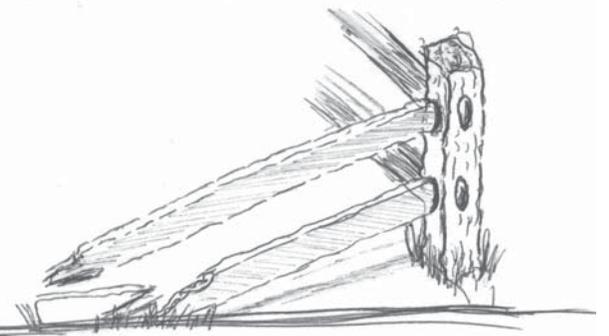
Develop a Meaningful Thesis

I want to create a thesis project that is meaningful to me on a personal level. The project will help rural communities like the one I grew up in deal with the socioeconomic issues they are facing.

Complete my time at NDSU

This project is the final capstone of my work at NDSU. The successful completion of this project will mark the transition of my career as I exit the academic realm of architecture and enter the professional realm.





SITE ANALYSIS

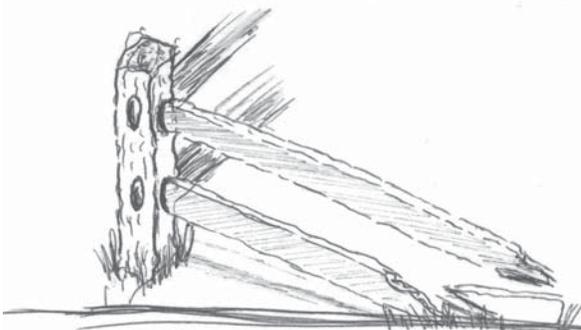
NARRATIVE

Located on the northeast corner of the intersection of S. Pine St. and East Broadway Ave., the site is the former location of McNally Industries. For years McNally Industries, an engineering and manufacturing company with contracts with the United States Department of Defense, occupied this site and the site immediately to the west of S. Pine St. The company has since moved to Grantsburg's industrial park and the two sites it previously occupied are now vacant.

Most people's first experience with the site is while driving north along S. Pine St. as they head from the highway into downtown Grantsburg.

Because of its location near one of the primary linkage roads from the highway to downtown Grantsburg, the site is exposed to a fair amount of traffic along its side. This area of business is extended by looking to the north and northeast from the site, as in those directions one can see portions of downtown Grantsburg, including the hardware store and one of the banks. One can hear the hustle and bustle of cars and people as they travel to and from work and carry out their daily errands in the downtown area.

This feeling of business is moderated by the primarily residential blocks that are located



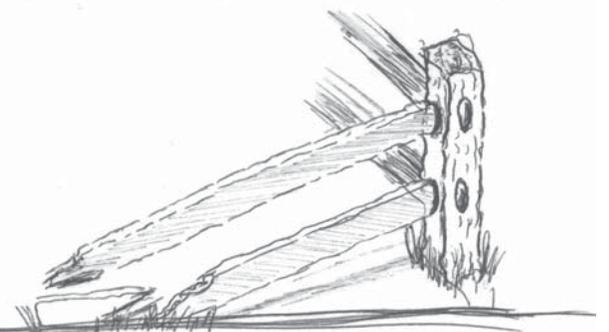
to the east and north of the site, allowing the site to serve as a “link” between the working aspect and the living aspect of the town. At the end of school in the afternoon one can both see and hear school children who live in the nearby area walking home. The sound and sight of their activity gives the site an active and carefree, youthful feel.

The southern portion of the site, the location of the former building, is graded flat and gives clues of the site’s previous use, while the north quarter of the site resumes the downhill slope of the nearby contours that descend onto Madison Ave. which is the main downtown street, only a block north.

Manicured grass covers the majority of the site while one coniferous and four deciduous trees are located in the northeast quadrant of the site.

During the day, the site is well-lit due to its relative openness, and even at night the site stays visible due to the street lighting along its western edge.

Given the removal of the existing manufacturing plant in the summer of 2010, the site is still undergoing some natural development. Unfortunately that natural development is on hold as all vegetative growth stops during the winter months.



ANALYSIS

Prevailing Winds

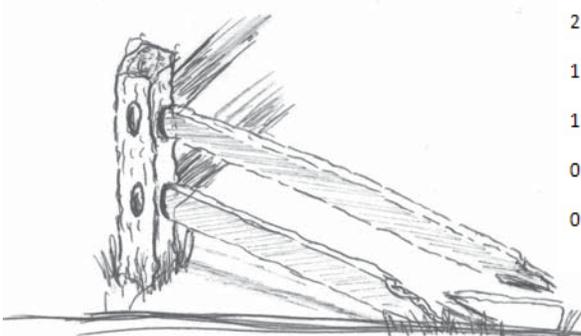
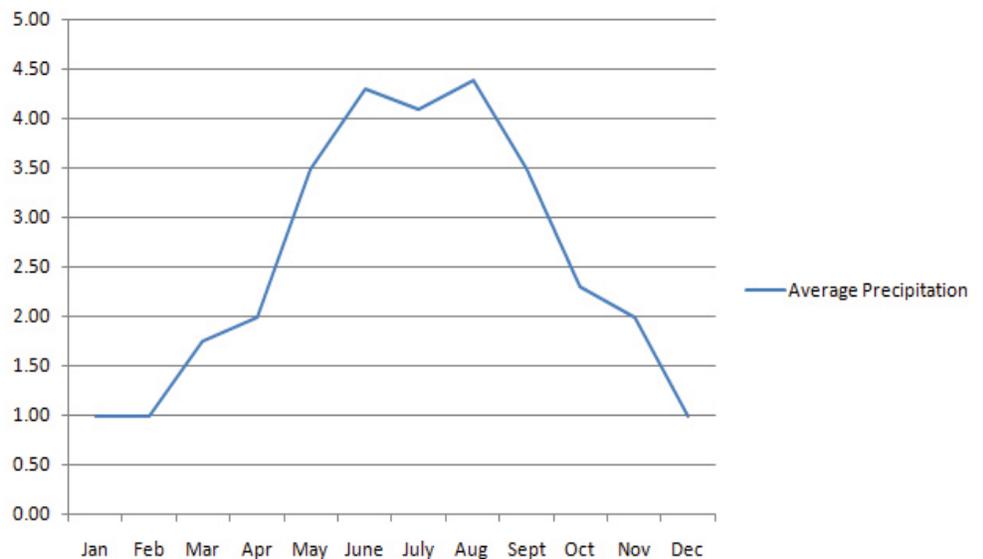
Prevailing winds are determined primarily by the season. During the summer, wind speeds average between eight and ten miles per hour. While dry winds tend to come from the west and northwest, winds that correspond to precipitation usually come from some variant of the south.

During the winter months, wind speed averages stay nearly the same. Cold, dry winds blow from the north and west to bring cold arctic air to the region. Warmer, wet winds again blow from the south to bring precipitation.

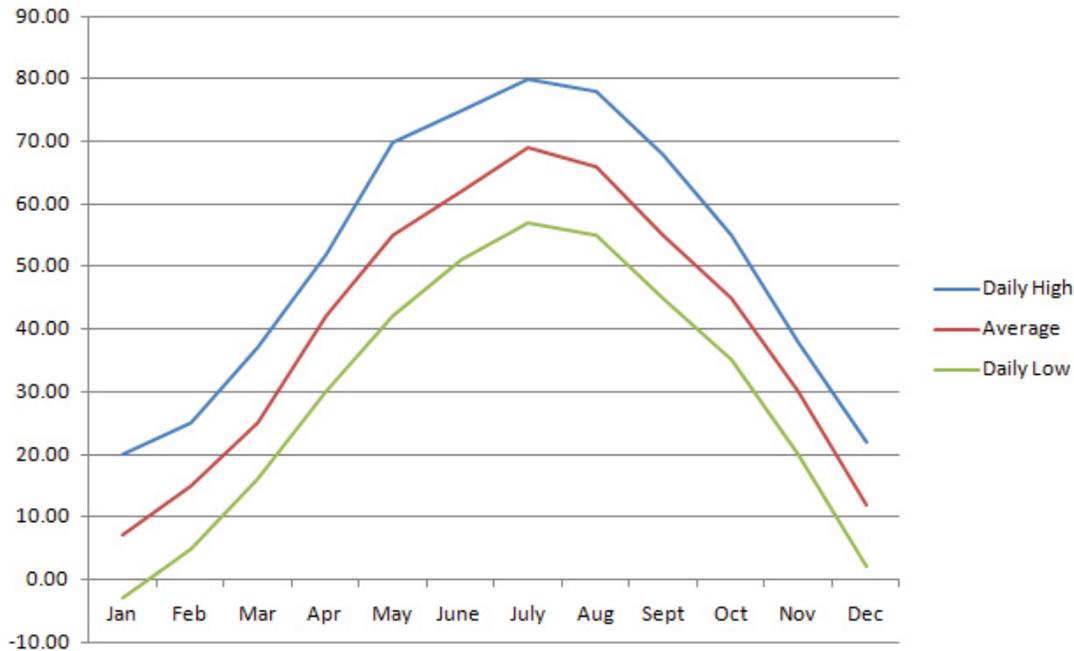
The site does experience slightly more wind than the downtown area due to its elevation of approximately 20 feet above that of Madison Ave.

Annual precipitation

Precipitation in the region is greatest in the summer months and least during the winter months.



Temperature



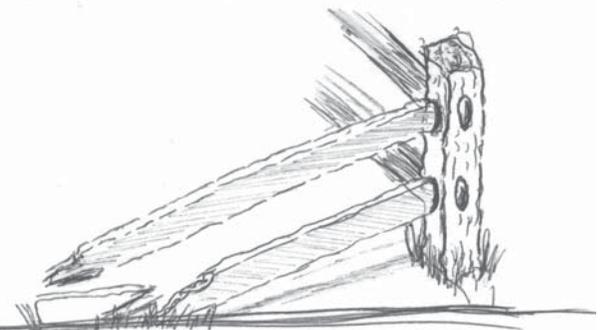
On a more micro scale the open parts of the site, including the graded area, tend to feel more extreme in temperature, whereas the trees in the northeast quadrant seem to make the temperature feel less extreme.

Noise

The majority of the noise on the site comes from the north and west of the site where most of the vehicular and business activities take place.

Afterschool hours and on non school days, one can often hear children outside playing in the surrounding residential neighborhoods.

The block on the opposite corner is home to a church whose bell rings every Sunday.



Utilities

There are few visible utilities on the site. An overhead power line runs east to west along the south edge of the site and north to south along the east edge. A series of street light poles stand along the west edge. There are underground utilities on the south edge of the site notable only by the above-ground boxes.

Vehicular Traffic

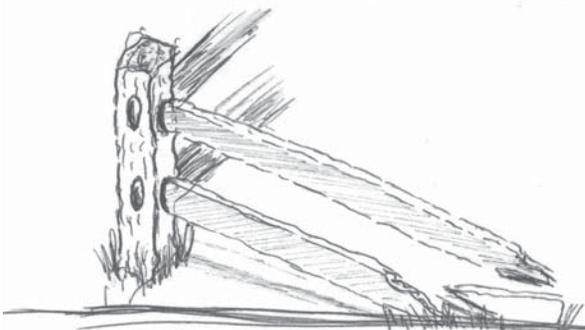
The majority of vehicular traffic surrounding the site is along S. Pine St. which is one of the major links from the highway to the downtown strip. The roads to the south and the east of the site are only lightly traveled by local residents. The north edge of the site is formed by a road that has almost zero use.

Pedestrian Traffic

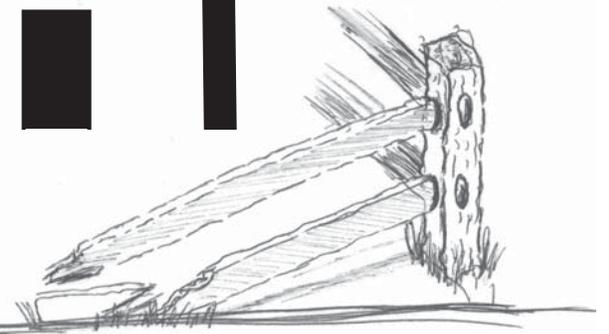
Sidewalks are provided for pedestrian traffic along both the west and south edges of the site. The sidewalks are far less traveled than those a block farther south on Madison Ave. but some pedestrian traffic does occur both on the sidewalks and across the site itself.

Topography

The south half of the site is nearly flat, due to it being a previous building location. The north portion of the site slopes north and slightly west between three and six percent.



Site Photos





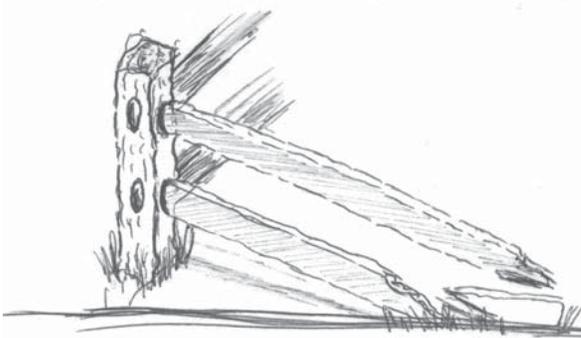
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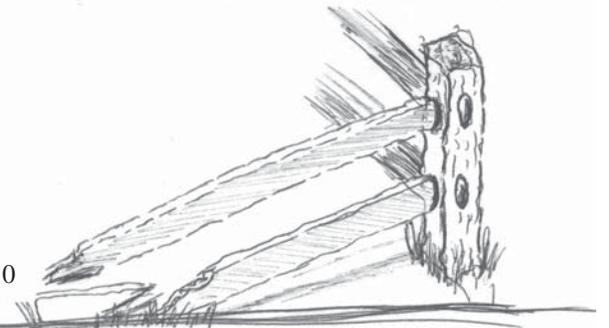




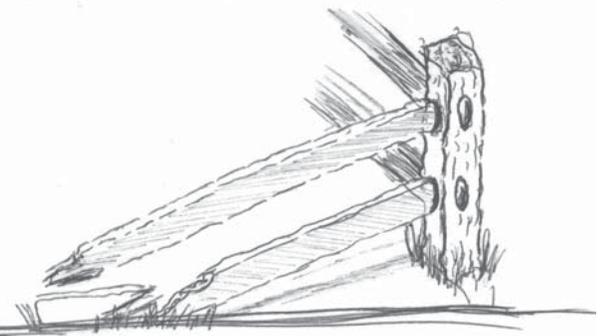
4



5







PROGRAMMATIC REQUIREMENTS

Administrative

Reception area - 140 ft²

City offices - 4 at 120 ft² each

Workspace - 140 ft²

Meeting Space

Large Meeting Space - 3200 ft²

Small Meeting Space - 1400 ft² each

Recreation Space

Gymnasium - 5400 ft²

Theater - 2400 ft²

Other

Lobby & Museum - 1700 ft²

Kitchen - 500 ft²

Vertical Circulation & Lookout - 3000 ft²

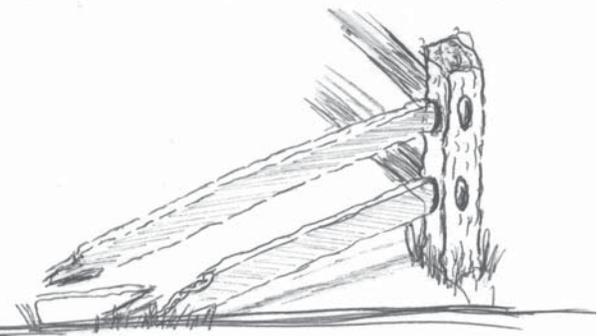
Storage - (multiple) 2000 ft² total

Restrooms - 2 at 220 ft² each

Locker Rooms - 2 at 360 ft² each

Mechanical - 1500 ft²





DESIGN SOLUTION

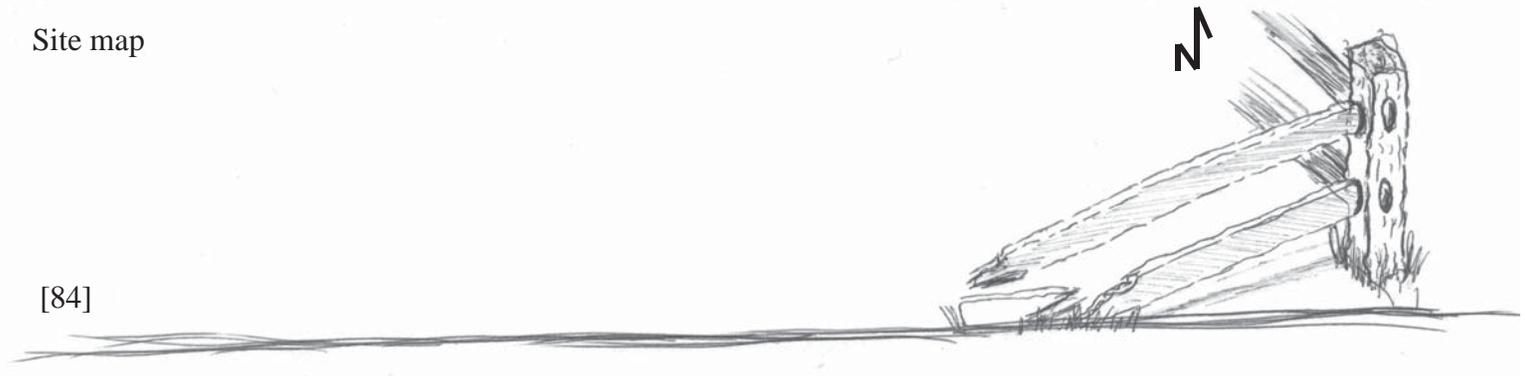


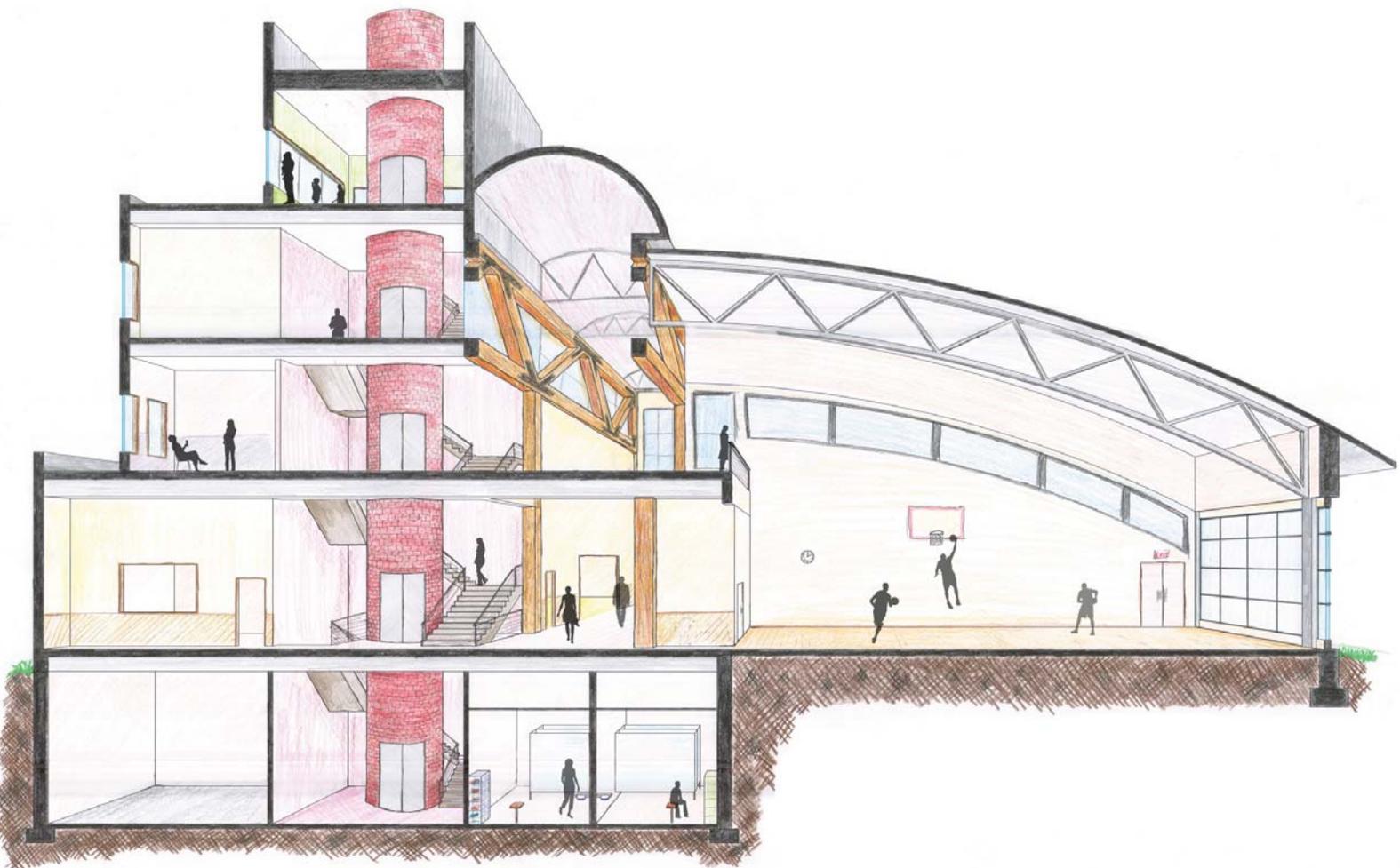
View of building from the southeast





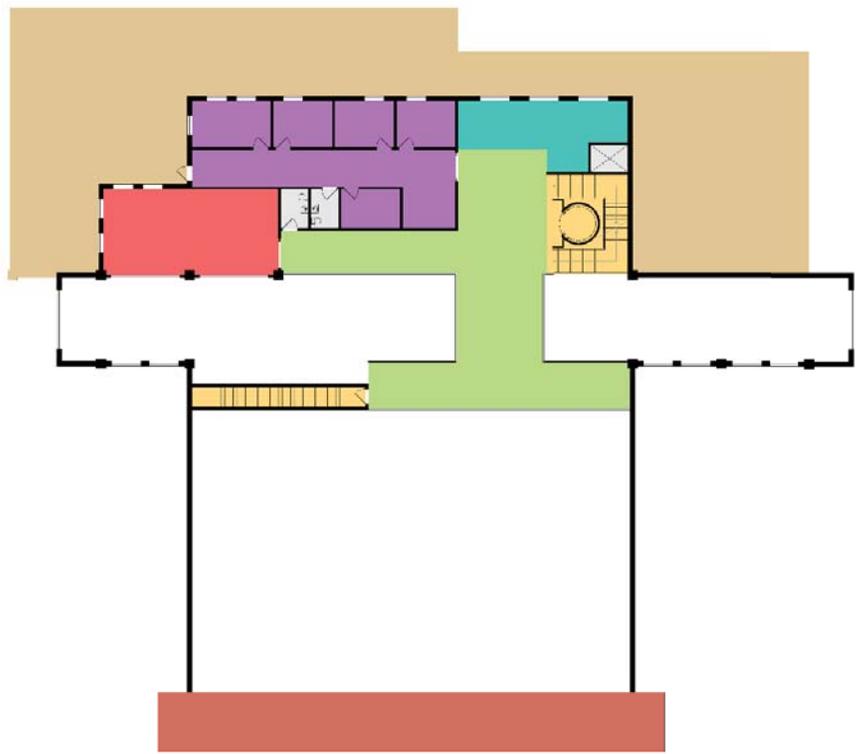
Site map





Perspective Section





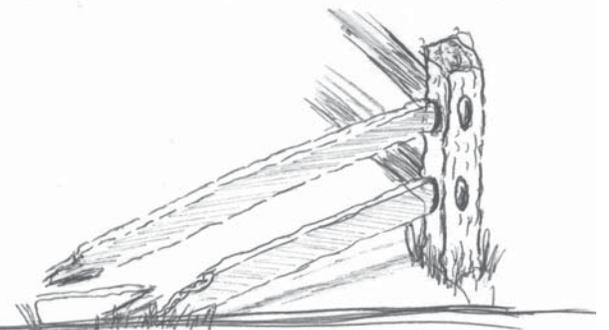
Second Level

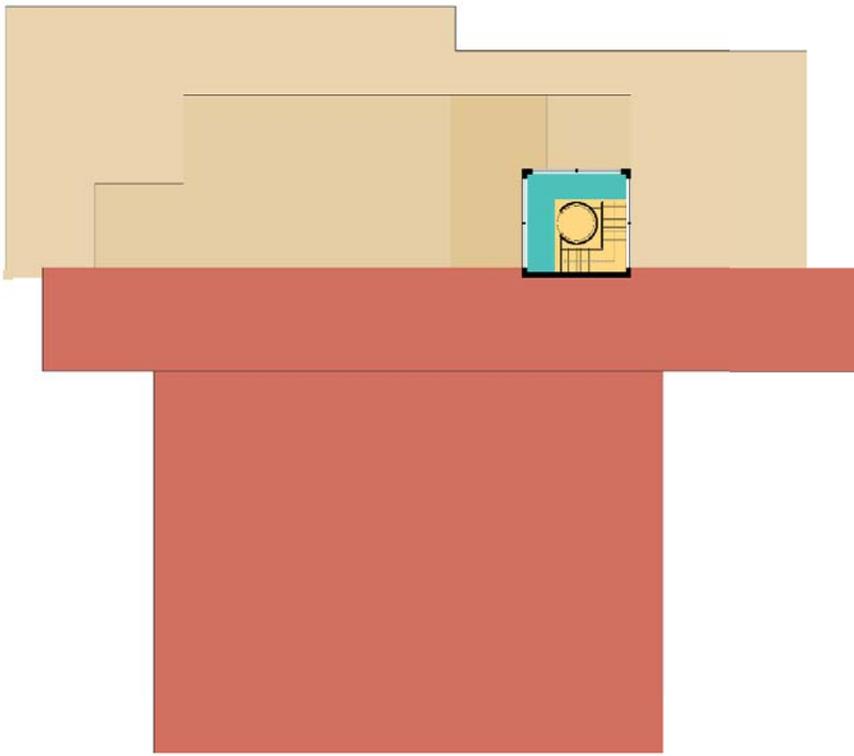


Main Level

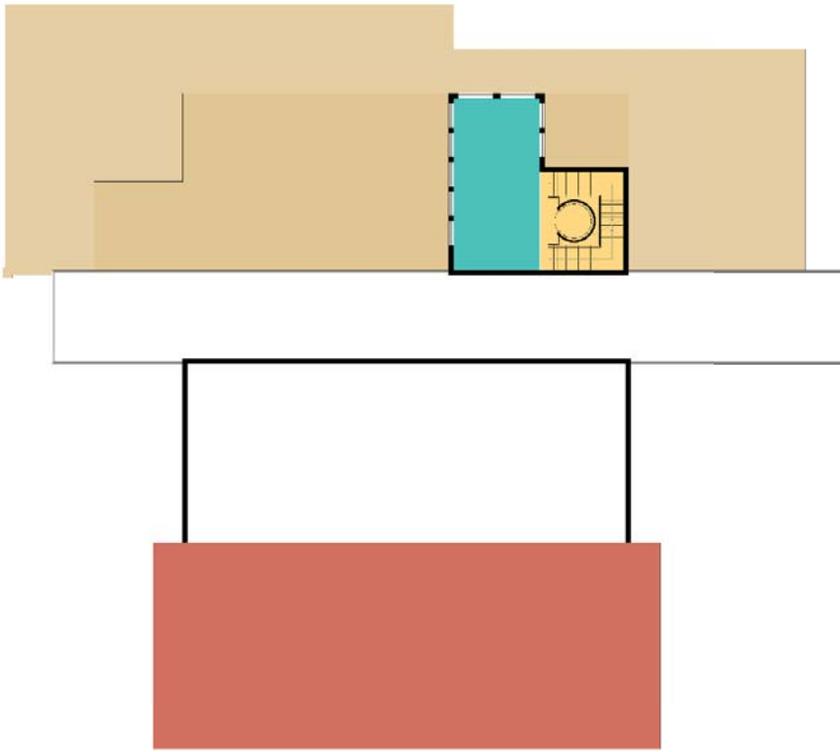


Lower Level





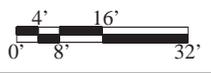
Fourth Level



Third Level

Floor Plans

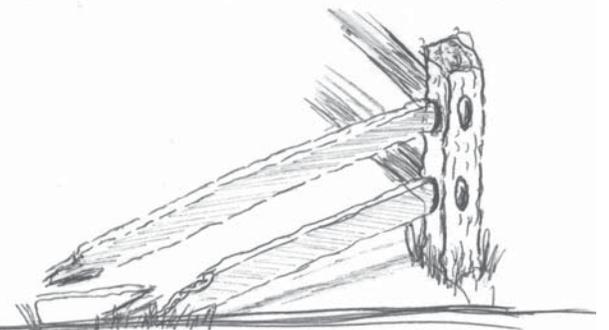
- Circulation
- Vertical Circulation
- Informal Break-out
- Multi-use Activity
- Meeting
- Office
- Service/Storage/Utility



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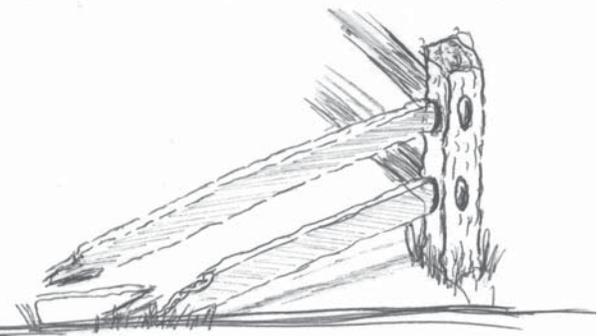
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