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Douglas, Brit.
Mtns Edge Community Center

Arch.
Thesis
2006
Douglas

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MTNS EDGE COMMUNITY CENTER

YOUTH INTERACTION
AND SPORTS FACILITY

KOOTENAI COUNTY, IDAHO

Creating **INDIVIDUALITY**
through involvement

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MTNS EDGE COMMUNITY CENTER

A Youth Interaction and Sports Facility for
Kootenai County


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

By

Brit Douglas

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


Cindy Urness


Don Faulkner, Associate Professor

May 2006
Fargo, North Dakota



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Thesis **A**bstract:

Mtns Edge Community Center

The designed thesis is a center for interaction in which to provide many opportunities, as well as encourage the participation in different activities. Built on the Rathdrum Prairie in Kootenai County, Idaho, the facility spans three buildings and approximately 300,000 square feet. The characteristics of urban hinge points and their involvement in the development of cities will be examined.



Statement Of Intent



Project Typology

The designed thesis will focus on a center for interaction, particularly for youth involvement. It will encompass an array of opportunities and activities, both on an individual and team level involvement, which appeals to individuals of all ages.



Theoretical Premise

The thesis will examine the characteristics of urban hinge points in the development of cities in general and these four in particular. Design metaphors, analogies, and or tectonics will be developed from the examination.



P_{roject} J_{ustification}

With the population growth around North Idaho in the recent years, little has been done to encourage or increase the availabilities of youth activities. Currently there is little opportunity for youth activities, during both the school year and the summer, that are not tied into school sports. The open land that is available between the towns of Coeur d'Alene, Post Falls, Hayden and Rathdrum is continuing to decrease as the four towns grow closer and closer together. The objective is to design an activity center that is available for access year round and for all ages. Because the location is at the heart of where the four towns meet, the opportunity for each community is readily available and accessible. Access to a public daycare can be available for those families that need childcare on a day to day basis. With the incorporation of an additional sports complex, to include areas such as: baseball diamonds, softball diamonds, soccer fields, indoor and outdoor swimming pools, basketball courts, a climbing wall, etc., a wide variety of activities can be experienced.



P_{roposal}



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Narrative

With the increase in population and the growth of economic development that has swept over North Idaho in the last couple years, the Rathdrum Prairie offers a prime location for a new community center and sports facility. The plot of land that lies on the corner of Prairie Avenue and Meyer Road sits at the heart of the prairie. It's the epicenter of all four outlying cities, which are Rathdrum, Coeur d'Alene, Hayden and Post Falls.

By providing a facility for children and young adults to utilize on a daily basis and at their leisure, we are helping to shape their self esteem and eventually, their futures. A new community center can provide children the opportunity to participate in activities that they might not have the opportunity to otherwise. In addition, it can help unify, strengthen and interlock the four cities together under one combined idea: a bright future for today's youth. Without the development of programs such as this, we would continually be contributing to the non-interactive futures of young adults within these communities. In contrast, we have the ability to help give young individuals a sense of security and identity among their peers and within the community at large. These facilities, as well as the overall programs developed, are designed to aid in the ability for young adults to contribute positively towards themselves, others that they can interact with, and the community at large.

With a combined population of 117,481 for Rathdrum, Coeur d'Alene, Hayden and Post Falls, there are no large community centers or sports facilities, and the small community centers and sports facilities that do exist have affiliations or ties to private groups and are not open for public use. The programs offered through the proposed



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facilities cover a wide range of interests, both external and internal. These include athletics, the arts, and dance, as well as personal satisfaction, health, and self esteem.

User/Client Description

The project will be designed for the communities of Rathdrum, Hayden Lake, Coeur d'Alene, and Post Falls, and will be open to the public year round. Its intended use will be for individuals of all ages. Specific activities will be targeted and developed for the different age groups and interests. Climate and yearly conditions will be taken into consideration, as indoor and outdoor possibilities for the activities will be available.

The building will be publicly funded and open to the public year round. Annual expenses from area schools and groups will help in the funding of the facility and allow for facility usage. A small sales tax will aid in the expenses incurred by the facility and help pay for the management and maintenance of the facility. There are separate conference and meeting rooms that can be rented out by different groups for individual, private use at a small expense. Different areas of the facility can be rented out for use by public organizations, such as school groups, during certain times of the day. The facility will be governed by a board of individuals voted on by the surrounding communities. Those members will include individuals that represent the city, school district, user groups, parks and recreation and the communities as a whole. The users of the facility fall under two main categories: visitors and staff. The visitors will consist of those individuals, of all ages, that come to the facility to partake in the different activities. The staff will include both hired individuals and volunteers that will help to oversee the facility.



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Parking will be on site parking, with plenty of parking spots for maximum use of the facility during all hours of the day.

Major Project Elements

There are many different project elements that are to be included within the facility. Each element is a small component that aids in the creation of the indoor and outdoor spaces.

Indoor Spaces:

- Pool
- Basketball Courts
- Softball/Baseball Batting Cages
- Soccer Turf
- Volleyball Courts
- Rock Climbing Wall
- Bowling Lanes
- Weight Room
- Aerobics Room
- Art Studios
- Dance Studios
- Men's and Women's Locker Rooms
- Small Meeting Rooms
- Large Conference Room
- Small Offices
- Cafeteria/Small Café
- Front Lobby/Entrance



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Outdoor Spaces:

- Pools
- Men's and Women's Locker Rooms
- Softball Diamond
- Baseball Diamond
- Basketball Court
- Soccer Fields
- Sand Volleyball Courts
- Rock Climbing Facility
- Playground

The surrounding landscape will be completely grass with small, grass covered hills constructed to help separate individual activities while providing places to sit and relax. Wooden railroad ties will be used in providing a walking path throughout the outside environment and will connect the outside to the interior. Vegetation will be planted periodically, yet will be planted as to not obstruct the view of the surrounding landscape.

Site Information

The specific site that is chosen for the new structure is positioned in Kootenai County and is centrally located between the four main cities that surround the Rathdrum prairie; this includes, Rathdrum, Hayden Lake, Coeur d'Alene, and Post Falls. Each city is slowly growing and expanding its boundaries out onto the prairie and this particular site sits at the epicenter of this expansion.

Not only does this site provide easy access from highly traveled roads, but it also provides easy access from the multitude of housing developments that are being developed close by. The view of the surrounding mountains and majestic terrain is available from any point on the site.



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Demographics

The population of North Idaho is continuously expanding. The overall population for Kootenai County increased from 108,685 people in 2000, to 117,481 in 2003. Populations in cities such as Coeur d'Alene (34,514 in 2000), Hayden (9,159 in 2000), and Post Falls (17,247 in 2000), increased within three years to become: Coeur d'Alene (37,262), Hayden (10,950), and Post Falls (19,984).

The percent of population in age groups for Kootenai County in 2000 were as follows:

Persons under age 15	22.4%
Persons age 15-34	26.0%
Persons age 35-54	30.0%
Persons age 55-64	9.4%
Persons age 65 and over	12.3%

The median family income for Kootenai County in 2003 was \$44,600. The average home price for a single family in Kootenai County in 2004 was \$163,352.

The employment and wages by industry for Kootenai County are:

	# of Jobs	Total Wages & Salaries
Agriculture	53	\$771,790
Mining	127	\$11,885,520
Construction	3,323	\$ 96,709,379
Lumber & Wood	1,581	\$56,410,782
Products Manufacturing		
Other Manufacturing	3,405	\$100,574,248



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Transportation,	1,510	\$50,974,400
Communications, & Utilities		
Wholesale Trade	1,635	\$55,580,093
Retail Trade	9,911	\$163,578,055
Finance, Insurance	1,868	\$62,455,870
& Real Estate Services	12,135	\$256,378,763
Federal Government	693	\$27,251,005
State Government	829	\$26,026,158
Local Government	6,798	\$182,165,152
TOTAL	43,867	\$1,090,761,215

Tourism is currently the largest industry in the Kootenai County area. Tourism-related businesses provide 7,200 jobs in Kootenai County alone, with wages and salaries totaling more than \$96 million in 2004. There is a continual creation of new jobs within the area in a variety of businesses that help to strengthen, diversify and stabilize the economic base.

Within the four cities, there are four public high schools, one private high school, five public middle schools and a multitude of elementary schools. Also available, within a sixty mile radius, for higher education is North Idaho College, Lewis-Clark State College, University of Idaho-Coeur d'Alene, Gonzaga University, Eastern Washington University, Washington State University and Whitworth College.

History

Kootenai County is an area with a rich background in lake steamers, fur trading, logging, and mining. The city of Coeur d'Alene was established in 1887, and from there continues to flourish to this day.

In the early 19th century, when fur traders and explorers began to move into the Northwest, the Schee-Chu-



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Umsh acquired the French name Coeur d'Alene. In translation it means "heart of awl", or hearts like the point of an awl; the name described their great skills in trading. Until the early 1890's, Coeur d'Alene served as the railroad/steamboat transfer point for transportation between the mines in the Silver Valley to the east and the smelters they fed. A proposed route that crossed the Bitterroot Mountains and followed the south fork of the Coeur d'Alene River was completed in 1892 and named Mullan Road, after Captain John Mullan who supervised the construction. It served as a military road, as a settler's route, a supply route for the Northern Pacific Railroad, and provided access to the Coeur d'Alene Mining District. During the 1880's, the discovery of gold and silver caused an increase in population, and the small towns in the Silver Valley became some of the richest mining districts in the world. The discovery of gold and silver coincided with the completion of the Northern Pacific Railroad, which overall connected Lake Superior to the Puget Sound. By early 1915, Coeur d'Alene had shipping facilities on five transcontinental railroads, as well as an electric railroad that maintained hourly transportation between Spokane, Washington and Coeur d'Alene. A large group of steamboats also offered tourist excursions during this time. The area continued to prosper into the 1900's when a major timber boom caused the population to increase. From there the city of Coeur d'Alene continued to expand from a small frontier into the political and business center of Kootenai County.

In 1881, originally named Westwood, the city of Rathdrum got its present name in order to obtain its own post office. It was situated at the end of the Northern Pacific Railroad route to the Coeur d'Alene Mining district.

Prior to the 1840's, Native Americans inhabited the shores of Hayden Lake. In 1878, a pioneer named Matt



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Hayden and another early homesteader, Jon Hager, got into a poker game to see who would name the lake. Hayden won, and through time, the name got altered to its current spelling of Hayden Lake.

Geographic

The parcel of land chosen sits on the corner of Prairie Avenue and Meyer Road. Its boundaries consist of Prairie Avenue to the south, Meyer Road to the East, with excess land extending to the north and west. Currently, Prairie Avenue is a two lane, well traveled road that connects Coeur d'Alene to Post Falls, but is currently under proposal to be turned into four lanes because of excessive travel use. Meyer Road is a two lane road and is used less frequently than Prairie Avenue. There is an abandoned railway that cuts across Meyer Road and Prairie Avenue on the west side of the site. It has been proposed to be turned into a public bike path that will run from Northwest Boulevard in Coeur d'Alene until it reaches Highway 41. Currently, the site is an open field used for farming hay. It is relatively flat land and contains no vegetation other than the hay that is farmed yearly. It is surrounded by similar fields to the north, west and south. To the east lie three houses and a small church. The immense, emerald colored mountains that surround the valley on all sides can be seen from each corner of the site.

One environmental issue that corresponds to the prairie is the natural aquifer that runs below it. The Spokane Valley-Rathdrum Prairie aquifer system serves dozens of communities in both Idaho and Washington, providing drinking water for nearly 400,000 people. It lies beneath the relatively flat land between the mountains on both sides, and covers an area of more than 325 square miles, extending from Lake Pende Orielle to the Little Spokane River. The



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groundwater enters the aquifer through rainfall and from surrounding lakes. Water quality has been generally good to very good in the aquifer, yet old landfills, industry, large urban developments, the highways and rail transportation on top of the aquifer surface all serve as potential sources for groundwater contamination. At the location for the proposed site, the aquifer runs from 200-300 feet in depth.

The sites orientation sits in the heart of the prairie which opens it up and makes it accessible to full, optimum daylight hours. The sunrise and sunset occurs over the mountain tops, making the daylight hours slightly reduced.

The mountain ranges that surround the prairie form barriers to the free flowing air that comes from all directions. Although North Idaho is located approximately 300 miles from the Pacific Ocean, it is influenced by maritime air borne eastward on the prevailing westerly winds. The maritime influence is noticeable in winter by the increase in cloudiness, greater frequency of precipitation, and temperature. The winds that come from the Pacific Ocean travel mainly through the Columbia River Gorge and travel north.

Storms, particularly windstorms, are not uncommon in North Idaho. During the months of October through July, windstorms are more frequent and often cause damage to trees, temporary disruption of power and communication facilities, but only minor damage to structures.

The weather of North Idaho involves a true four-season climate. It sits at an elevation of 2,152 feet above sea level. The mean summer temperature is 63.5 degrees, dropping to 31.5 degrees in the winter.



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The monthly average high and low temperatures are as follows:

	Average Highs (F)	Average Lows (F)
January	34.6 degrees	21.8 degrees
February	38.2 degrees	25.8 degrees
March	47.6 degrees	27.7 degrees
April	58.2 degrees	33.9 degrees
May	68.6 degrees	41.3 degrees
June	75.9 degrees	48.0 degrees
July	85.5 degrees	52.4 degrees
August	84.9 degrees	51.9 degrees
September	75.6 degrees	45.0 degrees
October	61.4 degrees	37.3 degrees
November	44.8 degrees	30.3 degrees
December	37.4 degrees	26.3 degrees

An average snowfall of 50 inches hits the region each year. The area receives an average annual rainfall of 26 inches, while the annual average relative humidity is 46 percent.

The monthly average precipitation is as follows:

January	3.58 inches
February	2.50 inches
March	2.28 inches
April	1.68 inches
May	2.02 inches
June	1.93 inches
July	0.70 inches
August	0.99 inches
September	1.25 inches
October	2.10 inches
November	3.10 inches
December	3.81 inches



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Just to the Northeast of the proposed site lies the Coeur d'Alene Airport which serves the general aviation community. It is the home to over 135 corporate and private aircrafts, as well as providing access for aviation education, emergency medical transport and it is also the home base for the US Forest Service Fire-Fighter Bomber.

Noise should not be an issue for this site. Majority of the noise will come from the traffic that travels on Prairie Ave and Meyer Road. The airport to the northeast will cause some noise during its use, but is not constant. Besides the traffic that travels to the south and east, the site is situated on a fairly secured site. Vegetation will aid in the reduction of traffic noise. Other noises will result in the different activities that will occur due to the construction of outdoor fields and courts, but will not necessarily occur on a daily basis.

P_{roject} E_{mphasis}

- Providing a facility for children and young adults to utilize on a daily basis can provide opportunities that may not be available elsewhere. A unifying community center would not only bring together the residents of the neighboring cities, but it would potentially provide a new environment for area groups to participate in a wide variety of activities. Both the physical health, as well as the mental health is taken into account with this facility. The activities available and the interaction that each individual experiences will aid in a positive, overall lifestyle.

- In examining the urban hinge points, a potential urban setting would be ideal for the overall future context of the site. Not only would a new community center/sports facility be essential for the residents of Kootenai County, but since it is set on the open prairie with plenty of room to expand, future projects, such as a theater, small commer-



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cial stores, or cafes are able to develop and provide a fresh, new urban environment. With new housing developing nearby, a new urban setting can offer great opportunities for new activities, as well as present a unique, innovative design for the never-developed area. A small urban setting would provide convenience for those living nearby, without taking away from the excitement and animation that the surrounding four cities have to offer.

P_{lan} f_{or} P_{roceeding}

- Quantitative Data:

- Maps of site
- Maps of surrounding areas
- Graphs of individual statistics

- Qualitative Data:

- Pictures of site
- Personal observation
- Interviews from Idaho Department of Parks & Recreation
- Interviews from local surveyors
- Historical searches

D_{ocumentation} O_f T_{he} D_{esign} P_{rocess}

- Pictures
- Maps
- Model
- Sketches
- Writings
- Computer-Aided Drawings

The design process will be completed through various means. The first will be developed through a sketch-



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book, the second through concept drawings and models, and the third through final detailed drawings and models, using both the computer and by hand.

Schedule Of Work

Fall Semester

Oct 13th:	Thesis Proposal Due
Oct 13th - Nov 23rd:	Research and Develop Program
Nov 23rd:	Draft Thesis Program due to Primary Critic
Dec 8th:	Final Thesis Program due to Primary Critic
Dec 16th:	Last Day of Class

Spring Semester

Jan 10th – Feb 1st:	Conceptual Design
Feb 1st – Mar 6th:	Schematic Design
March:	Design Development
Mar 6th - 10th:	Mid-semester Thesis Reviews
Apr 1st – Apr 23rd:	Final Presentation Work
Apr 24th:	Thesis Projects due at 4:30pm on the 5th Floor Downtown
Apr 25th-26th:	Annual Thesis Exhibit on the 5th Floor Downtown
Apr 27th – May 4th:	Final Thesis Reviews
Apr 28th:	Draft of Thesis Document due to Primary Critic



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May 11th: Final Thesis Document
 due at 4:30pm in the
 Department Office
 May 12th: Commencement at
 5:00pm at the
 FargoDome

**Note: Weekly meetings will be held with Primary
 Critic

Statement of Intent: August 23rd until mid-Sept
 Thesis Proposal: Mid-September until mid-October
 Thesis Program: October until beginning of Dec
 Design: January until end of April
 Thesis Exhibit: End of April
 Thesis Reviews: End of April through beginning of
 May
 Thesis Book: Due end of May

P_{revious} S_{tudio} E_{xperience}

Second Year Design Studio

- Spring 2003: Professor Milt Yergens
 - Coptic Church Development, Toronto, Ontario, Canada
 - Multi-Use Business/Residential Building, Fargo, North Dakota

Third Year Design Studio

- Fall 2003: Professor Ron Ramsey
 - Shaker Barn, Concert & Theater Hall, New Lebanon, New York
 - Pipestone National Monument Museum for Sacred Rock Quarry, Pipestone, Minnesota



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- Spring 2004: Professor Vince Hatlen
 - Straw Bail Construction House
 - Montessori School, Fargo, North Dakota
 - 7th Street Multiuse Redevelopment, Fargo, North Dakota

Fourth Year Design Studio

- Fall 2004: Professor Cindy Urness
 - Minneapolis Riverfront Redevelopment: Urban Design, Minneapolis, Minnesota
- Spring 2005: Professor Frank Kratky
 - Bioclimatic High Rise, San Francisco, California
 - NDSU Downtown 2: Marvin Windows Competition, Fargo, North Dakota

Fifth Year Design Studio

- Fall 2005: Professor Steve Martens
 - Armory and Auditorium Adaptive Re-use Building, Valley City, North Dakota



Theoretical Premise Research



Sociology

According to Victor Gruen, from Victor Gruen Associates, "We cover the countryside with urban fallout and simultaneously experience the rotting away of the historic city cores. If a halt is not called soon, we will all live in continuous mortal sameness, void of any interruption by landscape and plagued by a steady deterioration of original historic and dynamic urban centers. The climate is right for a decisive attack toward the improvement of man-made environment."

The interaction that man has with the environment is endless and can pose both as a positive and negative aspect. In essence, we as designers have the opportunity to play an important role in the future of our surroundings. The interaction between individuals, between man and the environment and even between adjacent environments can have an affect of the future. We study the way buildings are put together and formed, as well as the way man interacts among each other, but sociology in architecture can also deal with the interaction each individual structure can have on the environment that it ultimately interrupts. Man possesses a multitude of building materials and construction methods from which to choose and the advancement in technology has aided the idea that practically every shape and form can be created at any place in the world and under most any conditions. But the question arises, are we letting ourselves get too carried away, in that eventually there may no longer be any "new" designs, but instead a repeat or continuation of the past? In our interaction with the environment, we need to keep in mind that what we are designing can have an effect not only on the site that is chosen for it, but also on the users that interact among its walls. As designers, we need to open ourselves up to the idea that it may be better to focus on the entire environment first before focusing on the individual structure.

Sociology is the study of social lives and their interactions. As humans, we interact among each other on a daily basis, but the one thing we often do not take into account is our interaction with the built environment. Forms of architecture have and will always be an integral part of our environments, and they can lead to how we ultimately socialize in society. If a building was aesthetically pleasing yet served little functional value, then the relationship that the public would share with that structure would be vary



limited. Context and function are key elements in the design process because it is essential for structures to have a function, as well as provide human interaction in and within close proximity to it. As humans we often like to have hands-on situations and activities. As society moves steadily toward the future, design can accomplish anything. Whether it is the use of materials, special functions, or simply built components of a structure, interaction among anyone can be accomplished.

An unspoken relationship among man with the built environment is always going to be present. It is our job as designers to express and provide the opportunity for those relationships to develop and grow, and preferably at the same steady rate as the developing landscape that surrounds us.

Color Psychology

Color is energy and has a physical effect on each individual. When light strikes a colored object, the object absorbs only the wavelengths that exactly match its own atomic structure and reflect the rest, which in turn, is what our eyes perceive. When light strikes the human eye, the wavelengths influence our perceptions. These wavelengths are converted into electrical impulses in the retina and pass through the part of the brain governing our ability to see colors.

There are only eleven basic color words in the English language. After that, we start to borrow words, such as 'grape' to describe dark purple or 'avocado' to describe pale green. Regardless of what we call each color, the fact is that in color psychology it does not matter what we think we are looking at; the effect of the colors on us is caused by their energy entering our bodies.

The fundamental psychological properties are universal, regardless of their shade, tint or tone that is being seen. Each has a potentially positive or negative effect on us and each effect depends on the relationships within color combinations.

There are four primary colors - red, blue, yellow and green. They all relate to the body, the mind, the emotions and the essential balance between these three.

The psychological properties of the eleven basic colors are:

RED: Physical

Positive: Physical courage, strength, warmth, energy, basic survival, 'fight or flight', stimulation, masculinity, excitement.

Negative: Defiance, aggression, visual impact, strain. Red grabs our attention first. It stimulates us and raises the pulse rate.

BLUE: Intellectual

Positive: Intelligence, communication, trust, efficiency, serenity, coolness, reflection, calm.

Negative: Coldness, lack of emotion, unfriendliness. Blue affects us mentally; it stimulates clear thought and calms the mind.

YELLOW: Emotional

Positive: Optimism, confidence, self-esteem, friendliness, creativity.

Negative: Irrationality, fear, depression, anxiety, suicide.





Yellow is the strongest color psychologically. It can lift out spirits and self-esteem.

GREEN: Balance.

Positive: Harmony, balance, refreshment, rest, restoration, environmental awareness, equilibrium, peace.

Negative: Boredom, stagnation, blandness.

Green requires no adjustment of the eye, therefore is restful. Because the world contains plenty of green, we often feel reassured, on a primitive level.

ORANGE

Positive: Physical comfort, food, warmth, security, passion, abundance, fun.

Negative: Deprivation, frustration, immaturity.

Orange focuses our minds on issues of physical comfort and sensuality.

PINK

Positive: Physical tranquility, femininity, love, sexuality, survival of the species.

Negative: Inhibition, emasculation, physical weakness.

Pink soothes rather than stimulates. It represents the feminine principle and is nurturing.

GREY

Positive: Psychological neutrality.

Negative: Lack of confidence, dampness, depression, lack of energy.

Grey is the only color that has no direct psychological properties. It can be suppressive and depressing.

BLACK

Positive: Glamour, security, substance.

Negative: Oppression, coldness, menace.

Black creates a perception of weight and seriousness.

WHITE

Positive: Hygiene, sterility, clarity, purity, cleanness, simplicity, efficiency.

Negative: Sterility, coldness, barriers.

White is total reflection. It gives a heightened perception of space.

BROWN

Positive: Seriousness, warmth, earthiness, reliability, support.

Negative: Lack of humor, heaviness.

Brown has associations with the earth and natural world.



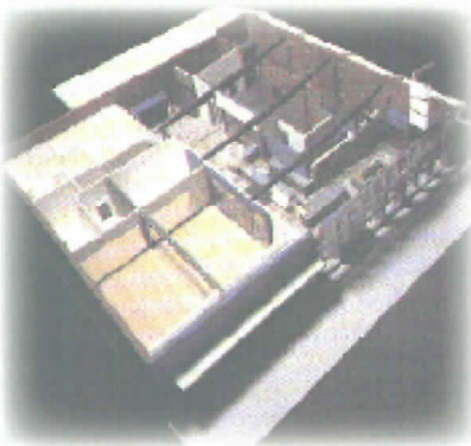


Case Studies

BUS Wellness Center

Santa Monica, California

Steven Ehrlich Architects



The BUS Wellness Center exists in the old location of the Santa Monica Greyhound Bus terminal; a historical gateway to the coastal communities of Southern California. It was completed in 1996 and serves as a new fitness center, which includes: a restaurant, a boutique, stand-up counter, kitchen, gym, an aerobics studio and locker rooms. The strategy of Ehrlich Architects was to 'uncover the building's good bones, add a central passage, and refit with complementary finishes and fixtures'. By reusing many amenities that currently existed, they were able to capture the soul and spirit of the old building. They uncovered the windows and vault, scrubbed the brick walls and terrazzo floor, and selected a palette of blue and grey-green to set off the natural materials. The 5,000 square foot brick shell revealed a 50's era tapered steel roof frame which became the primary defining element in the conversion of the space into the wellness center. Many times larger than the building department would approve of today, the original BUS sign is a distinguishing element that draws people to the building and was allowed to stay behind because it remained in the new name.

There is a main passage that runs from the sidewalk to the rear parking lot that acts as an interior "street" and provides a new sense of order, airiness, and light. Each individual space is developed on either side of the passage. The studio and gyms can be enclosed with roll-down glass doors, or simply left open. Vast mirrors are used to help enlarge the spaces, and crank-up skylights capture overhead breezes to provide natural ventilation. The Fifth Street façade was stripped to expose the tapered steel frame, a vintage light diffusing screen, and was opened to show the interior form. The entire re-use development was done a budget of approximately \$30/sq. ft.

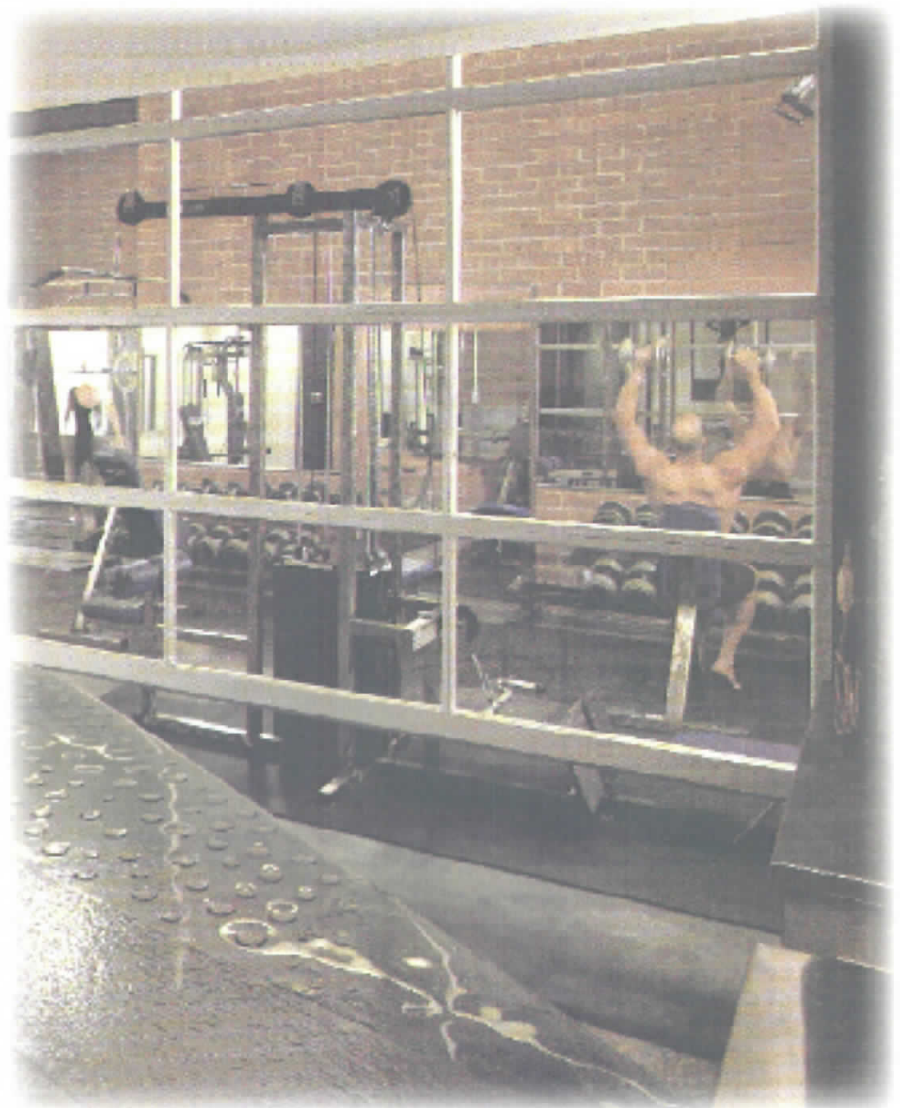
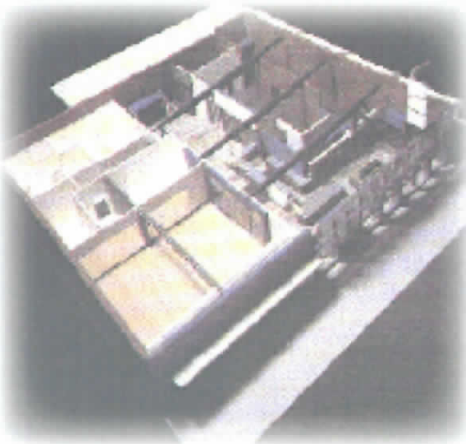
The incorporation of new with the old helps give the BUS Wellness Center its distinctive character. From the streetscape, the building gives you a feel of how the

BUS Wellness Center

Santa Monica, California

Steven Ehrlich Architects

old building took on a new decor and transformed itself into a 'hip health club'. Serving the community as a new health club appeals to the current trend in society. Since the Greyhound Bus Lines have played a significant role in American culture and transportation, the new building allows the public to view the history of what it once served and what it has now evolved into.



Commerce City Recreation Center

Commerce City, Colorado

Barker Rinker Seacat & Partners, Architects



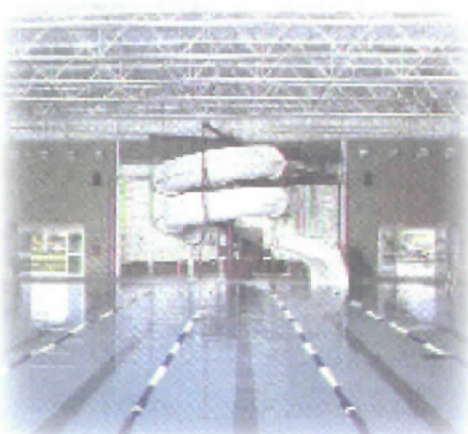
The Commerce City Recreation Center is a place where Denver's resident population of 17,000 can find common ground in a multipurpose building that provides facilities that accommodate government and industry, residents and commuters, and young and old. The site for the new center is bounded on one side by neighborhood streets lined with tidy bungalows, and on the other by commercial and industrial development. In order to "match" the new building to the typically '60s city hall, the architects had to use a symmetric load-bearing masonry structure of buff colored brick with darker brick insets and brightened up with glass masonry. As well as letting in, yet moderating, the abundant sunlight of the region, the glass block also soothes the building's outlook. To the west one can see the mountains with a foreground of strip malls and fast food establishments, as well as a mid-ground including an oil refinery, grain elevators, assorted warehouses, and a dog track.

The design was driven by the need for a gymnasium and swimming pool, as well as the desire for the building to also serve the older members of the community. To deliver a design that would accommodate to the public's needs, the pool and gym and paired, with locker rooms and similar facilities between them. A senior center sits at the west end and has a prominent entrance through a garden terrace. Additional entries lead to a two-story lobby that draws natural light from a glass-block clerestory. The atrium/lobby, located towards the center of the building, allows oversight to the entire complex and provides visual links to surrounding areas and activities. Interior window walls are constructed to provide views of the gym and pool, which are also overlooked by a second-level jogging track that loops through the lobby and other major spaces. The complex contains a 25 meter pool that features a 25 foot high spiral slide, as well as a glass block wall to emit natural light and an open sun deck that can be reached by sliding

Commerce City Recreation Center

Commerce City, Colorado

Barker Rinker Seacat & Partners, Architects



glass doors.

The recreational center has a full menu of recreational activities complemented by offices for the city's park and recreation department, daycare facilities, and a senior center. The interesting and important aspect of the senior center is the design to give it its own identity through a separate entrance. Therefore, the center is buffered from the rest of the building by shared spaces allowing seniors to opportunity to have selected involvement in the rest of the activities that occur throughout the facility.

The organization of the facility is set up in a way that corresponds to each individual needs. The arrangement of spaces separates the different activities, while still allowing some room for shared interaction. Different construction methods helped bring the outside environment in, while shielding the unwanted views in a very aesthetic manner. The constant use of glass block adds a certain eye appeal to the building without taking away from the rest of the facades. This is a building that was designed to fit many different needs, and it accomplished this very well.

Tostrud Athletic Center

St. Olaf College, Northfield, Minnesota

Ellerbe Becket, Inc.



The Tostrud Athletic Center is a part of St. Olaf College in Northfield, Minnesota. It was constructed in 2002 and designed to support recreation, wellness, and physical education for all students and the St. Olaf community. The idea was to produce a state of the art fieldhouse that could be seamlessly integrated into an existing athletic complex. The constraints were in the fixed budget, tight schedule, and extensive structural challenges. Not only did the design team have the responsibility to provide the foundation and cladding for the new building, but they also provided a linking structure to the existing sports facility. The new addition which consists of 95,000 square feet holds a fieldhouse with competition track, a fitness area and a rock-climbing atrium. Due to the open design of spaces, all of the new recreational components are visible upon entering the building. The rock climbing atrium is centrally located and provides a large quantity of daylight into the facility. The jogging track is elevated which allows users to have a clear view of the entire fieldhouse. The facility contains an aerobics training facility, advanced exercise machines, a weight training facility, and elevated walking and jogging ring, a six-lane, 200 meter track, five tennis courts, four basketball/volleyball courts, coaches offices, locker rooms and a 48 foot high rock climbing wall.

With the linking structure being the key element of design, the result was two prominent architectural features at the new main entrance that was located between the old and new fieldhouses. One feature is of a glass enclosed 48 foot clerestory space that encompasses the climbing wall and main stair. The other element is an exposed tubular steel canopy that cantilevers 20 feet out over the approaching drive. Because the new structure was designed to be built against the existing structure, the link allows the designed building to extend right up to the existing stone outer wall of the old building; this provides not only a new transition space, but also accommodates

Tostrud Athletic Center

St. Olaf College, Northfield, Minnesota

Ellerbe Becket, Inc.



both the aesthetic and functional needs of the project.

The numerous windows used throughout the building provide a good source of natural daylight, as well as add a very open feeling to the front of the facility. The expansive size of the facility seems a little bit overwhelming at first glance, but the fact that each space opens up into the next gives it a more comfortable feeling. The interlocking of open spaces creates separate areas for each activity while still allowing visual interaction among the users.

Fleet Recreation Complex

Naval Station, Everett, Washington

LMN Architects



The Fleet Recreation Complex is situated on the Naval Station in Everett, Washington. It is located just north of the Navy Base's Central Plaza. It was completed in 1996 and cost approximately \$12,700,000 for construction. It encompasses 65,000 square feet and combines three normally separated functions and user groups into one facility. The 65,000 square feet consists of 33,000 square feet of physical fitness facility, 14,400 square feet of recreational center, 17,600 square feet of consolidated club. Maximum functional relationships, efficiency, and cost effectiveness are achieved throughout the building by the use of shared systems, circulation and spaces. An octagon tower aligns the southeast corner of the building with the central axis of the entire Base. The main entrance, however, is orientated to face the Central Plaza. Inside, the two-story food court adjacent to the courtyard entry becomes the central space and circulation core. A public circulation route along the front of the building connects the main entry, administration offices, food court and cocktail lounge at the first floor, along with a public stair and elevator to the second floor. A secondary circulation path links the gymnasium, locker rooms, and racquetball courts. Spaces that face the food court are service counters, outdoor gear issue, and three glass-back racquetball courts. A multi-purpose room and banquet hall are located on the upper level.

The design of the complex not only provides functionality for its users, but the spaces are aligned in order to achieve suitable access of public versus private. The upper level contains spaces that are separate to allow for private use, while the public spaces are situated among the main level and have easy access from each entry. The sleek and simple design of this facility allows the building to run efficiently and allow for maximum performance. The expansive interlocking of spaces and shared circulation routes allow for peak special efficiency. Also, the creative

Fleet Recreation Complex

Naval Station, Everett, Washington

LMN Architects

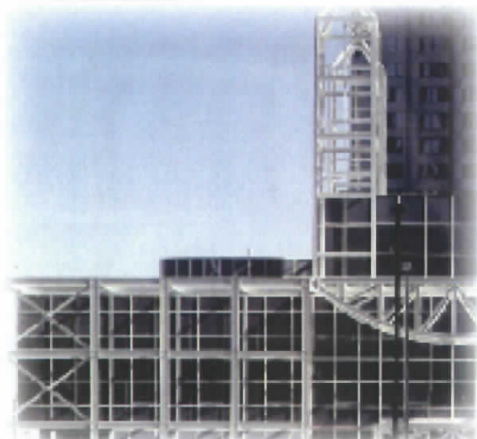


use of glass along the roofline allows for optimum use of daylight throughout the building.

Sporting Club at Illinois Center

Chicago, Illinois

Joint-Venture Architects



The Sporting Club is positioned in the middle of the Illinois Center. With skyscrapers towering on every side, the Illinois Center appears small, yet consists of 114,470 square feet. Aiding to the minimal look in size is the fact that only two of its six stories rise above the street level. However, the overall design and appearance gives the building strength to stand among the neighboring skyscrapers.

For economic reasons, the Sporting Club was framed of reinforced concrete. The outside, however, portrays numerous facades of glass and metal. The structural frame of concrete is enveloped in a grid of slim aluminum members and panes of clear, tinted and spandrel glass. The glass curtain wall is caged within a lattice of wide steel; the structure is a double wrapped building. The entries into the complex are marked by upside-down bowstring trusses. The rooftop carries a one-story lantern across the inner atrium. A separate rooftop structure houses the mechanical equipment. The vertical components that rise up from the rooftop relate to the tower nearby. At the peak of each turret sits a wind sculpture that twists continually, yet randomly, with the changing winds.

The interior is a progression of large open spaces. The street entrance enters onto the fifth level which leads down to a reception and check-in area at the concourse level. Offered at the concourse level is food services, a day care room, and a gift shop. The lowest level contains the swimming pool, squash and racquet courts. On additional levels are exercise areas and lockers, a basketball court and a running track. A central atrium runs the vertical length of the building providing light to all levels. On the back of the atriums central elevator stands a 100-foot high fiberglass rock climbing wall.

The idea that the building is intended for the public use is portrayed within its design. By remaining only two levels above ground, the complex related to human scale in a positive manner, especially in a neighborhood of towering

Sporting Club at Illinois Center

Chicago, Illinois

Joint-Venture Architects

skyscrapers. The design of the rooftop turrets help in relating the complex to its surrounding environment. The minimal height gives the complex a comfortable welcoming to individuals passing by; the construction alone is an inviting aspect for entering the space. The central atrium was a good source to bring light to all levels and to help reiterate the openness of the spaces. The double wrapped facades bring a wonderful aesthetic pleasure to the overall feel of the neighborhood.



Sixth & Folsom Community Center

San Francisco, California

Marquis Associates, Architect



The low-lying neighborhoods south of Market Street are still part of an urban frontier. During the 1960s, South of Market became the only neighborhood in San Francisco without a park or recreation center. After area residents drew up a list of needs, the results became a new 16,000 square foot building and landscaped park.

The façade facing Sixth Street overlooks a busy four-lane industrial thoroughfare, therefore was constructed with a saw-tooth roof and walls of rock-faced masonry block. The south facing façade is covered in painted stucco to harmonize with the residential nature of Harriet Street. The only glazing on the complex is on its northeast facing gables.

A centrally located lobby divides the facility in two and connects the park and Sixth Street entrances. To one side lies a large gymnasium and exercise room, while on the other is a multipurpose room, kitchen and staff stations. Outdoor spaces were designed for a variety of uses. A seating area for senior citizens is located next to the multipurpose room where individuals can enjoy both privacy and views of the park. At the opposite end is an outdoor court for basketball and volleyball. A children's play area is arranged in the center of the outdoor space.

The design of the center was created in reference to the existing neighborhood. Various metal-sided gables top off the structure in relation to nearby peak-roofed houses and help to break up the bulk of the structure. The center corresponds to the neighborhood in scale as well as character. The overall development was an important solution to a neighborhood in need. Not only does the center conform to the existing, surrounding architecture, while still adding a creative twist, it also exemplifies the work of local artists. Sculptures and ceramic painted panels help create a sense of visual style and portray artistic beauty.

Student Recreation Center

University of Idaho, Moscow, Idaho

Northwest Architectural Company



The design ideas of Northwest Architectural Company envisioned the new Student Recreation Center at the University of Idaho as a recreational village whose rugged, angular exterior mirrors the region's landscape.

The facility itself is composed of 84,000 square feet and houses a central two-story atrium/lounge, cafe, two multi-court basketball/volleyball gymnasiums, a multipurpose activity court, a suspended indoor jogging track, aerobic rooms, and a climbing area with a 55 foot free-form pinnacle, bouldering and top-rope climbing walls. Other area included in the design are cardiovascular fitness and weight-training areas, health and fitness testing labs, locker rooms, program offices, administrative offices and storage. The center is also known for its nationally recognized outdoor recreation program.

All of the key activity areas are visible from the main entryway; this allows staff to conveniently observe all spaces. The building's innovative design and location underline the university's focus on healthy living, as well as help to enhance student and faculty recruitment and retention.

Interior design elements, which include an exposed branch-like wood roof structure, a gallery of clerestory windows, and a concrete floor that is stamped and colored to emulate a forest floor, all help to extend the area's natural environment indoors and validate the design's commitment to sustainability.

The incorporation of the outdoors into the interior increases the aesthetic pleasures when participating in the given activities. It not only provides a more comforting environment to be in, but it also brings together a level of simplicity with natural beauty.

Hamilton Indoor Recreation Center

Moscov, Idaho

Northwest Architectural Company



The goal of the City of Moscow's Hamilton Indoor Recreation Center was to create a gathering place devoted to the vitality and physical wellbeing of the community.

The facility is composed of 21,000 square feet and was completed for only \$2.78 million. The indoor recreation center accommodates a multi-court gymnasium, multipurpose room, locker rooms, concession area and administrative offices. Because of its multi-functional design, the facility holds the ability to host a broad range of activities.

A glass box that is intersected by a masonry vestibule forms an inviting main entry lobby which serves as an orientation space both from the site and within the building. The sloped roof forms on the Recreation Center were built to look similar to those of the Hamilton-Lowe Aquatic Center that is situated on the adjacent site; the comparable roof structures of the two buildings help unify the two structures and create a continuity of theme. The lower sloping roof is offset to gain natural light through clerestory windows. The double-sloped roof related to the gabled roofs that are found in the surrounding residential neighborhood.

The design features of the facility help in the reduction of cost. The use of natural lighting helps reduce electricity costs, as well as the lighting fixtures that can be switched between one-, two-, or three-bulb operation. Also, the use of tall ceilings seems to be no obstacle to cost-conscious heating, cooling, and ventilation.

A bonus to the users of the Recreation Center is the fact that there is a no-fee admission, though there is a rental fee for those who wish to reserve the facility for private functions. The facility is open to the public as late as 11pm on most days, which allows users the benefit of using the facility after work and gives parents the time after work to stop by the recreation office to register their children for the numerous sports leagues that are offered. The average number of users in the summer months was a reported 1,200, while the average number of users for the winter months was 1,900.

Clayton Community Youth Center

Allison Park, Pennsylvania

RSSC Architecture



What began as an addition to a house adjacent to the Presbyterian Church, completed in 2003 into a new 8,900 square foot structure with a construction cost of \$1,100,00. The concept was to create an inexpensive, spacious structure the could house classrooms, offices, and a multipurpose room that could be used for anything from volleyball to bands. The overall look of the new facility needed to harmonize with the existing church architecture, while still presenting a unique appearance that would appeal to both children and teens.

The overall facility achieved each desire with a well-balanced solution. Low-sloped, asymmetrical roofs minimized sightlines from the street, and the entrance drive. The front of the building was designed to complement the adjacent sanctuary by creating a tall lobby space that faces internally toward the parking lot and is oriented perpendicular to the existing church allowing for further facility expansions. The main entrance is located on the corner of the building and is oriented toward the entry drive in front of the main church. The facility houses a multipurpose room that can be divided into three classrooms, a half-court gym that can double as an auditorium with risers for stairs, three permanent classrooms, a small kitchen and café area, as well as handicapped accessible restrooms and two showers.

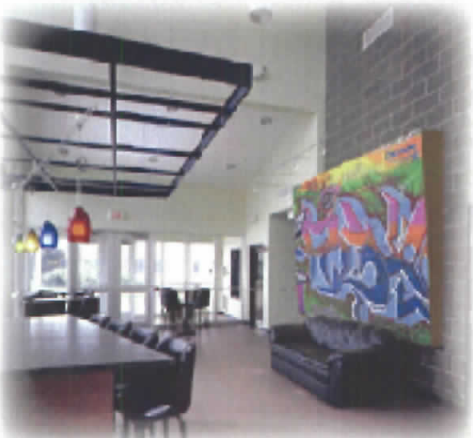
The exterior materials are primarily brick and brightly painted horizontal cement-fiber siding. This was to minimize the visual mass and to convey a sense of scale and playfulness similar to a classic church camp structure. This idea is carried further by the varied scale of windows, the shed-like enclosure of the entry visible and canopy, and the four shed dormers that break-up the scale of the large roof and provide day light along the interior of the main corridor.

The lobby cafe is what the interior life of the building centers around. It functions as a fundamental gathering

Clayton Community Youth Center

Allison Park, Pennsylvania

RSSC Architecture



space and “hang out” area. It combines lobby with lounge and the tall glass windows help to define the actual kitchen, which features a central coffee bar with seating, enclosed by a low grid ceiling and intimate lighting. A lower ceiling encloses table seating to the side. The concrete block walls that enclose the multipurpose classroom are left unpainted, with a clear sealer used instead to provide an inexpensive, durable surface, while presenting a youthful “garage band” aesthetic. The generous amount of glazing in the lobby, in addition to providing a multitude of daylight, creates a sense of transparency to the rest of the church grounds.



Historical Context



This Community Center is similar to those built in the past, yet contains a sort of twist. The size of the facility accommodates a large variety of activities and sports for individuals to partake in, or simply watch. It encompasses both the qualities of the indoor environment, as well as the outdoor environment, and makes a connection that leaves and individual feeling comfortable in their environment.

Due to the constant increase and growth of the surrounding cities, a community center, such as this one, can alleviate many problems with the lack of activities around the area. It provides enough room and availability for growth to both accommodate the present population in the area, as well as the future population that carries the potential to expand the existing four cities and interlock them among the Rathdrum Prairie.



Goals



- To understand and utilize my research and investigation into the theoretical premise of my project in order to make connections between the theoretical exploration and the impact it will have on the direction of the thesis project.
- Summarize the results of my research and exploration into the different typologies in reference to my project. This includes the analysis of the case studies and the lessons learned that will aid in the correct decision-making process of my thesis project.
- Establish the historical, social and physical context of my project. How it relates to similar projects throughout history, how it might relate to social trends or developments within our society, and what the overall context within which my proposed design is set.
- Having the ability to combine all of my research will aid in the creation of a set of theoretical, physical and social goals for my thesis project.



Site Analysis



Site Analysis

The existing site, on the corner of Prairie Avenue and Meyer Road, is situated on the open Rathdrum Prairie. It is surrounded by mostly open, undeveloped land. To the east of the site lie a small church and three small residences. Both the church and the houses remain under two stories. Found to the south are small residential streets and more open areas. To the north and west lay open land, and to the southwest is a small farm. Due to the fact that the area has never been developed there are no underlying grid lines except that it is broken up into a township. The exact site location sits at T51NR4W section 19.

The topography of the site and surrounding area is fairly flat, yet it is surrounded by mountains on all horizon lines. The outlying topography plays more of an aesthetic purpose to the site. The minimal number of built structures that are nearby decrease the amount of shade and shadows that fall onto the site throughout the year. Because of the vastness surrounding the site, any structure that is built will need to be aware of the increased possibilities of shade and shadow in design because there is such an ample opportunity present for sunlight to have a direct effect on the building. Developed areas that are higher in population exist a few miles away and consist mostly of residential. Due to the increased development of the four outlying cities onto the open Prairie, the possibility for shade and shadow to have an effect on the proposed facility in the future also exists.

Light Quality

The availability of natural light is endless. Intense sunlight can be collected from all angles on the site and utilized in many design aspects. Minimal light pollution is present. Light can be seen from neighboring towns at night but have little effect on activities played out on the site. Shade is a strong design aspect needed to be taken into effect, especially on outdoor activities because of the strong, direct sunlight. There is an average of 13.37 hours of illumination each day during the year.

Vegetation

Little to no trees are present around or on the site. The current vegetation on the land is from its present usage of farming hay. The vegetation color palette contains a small array of beautiful colors ranging from a light gold to a rich brown. The different display of colors mixed with the



intense sunlight combine for a notably natural and simplistic environment.

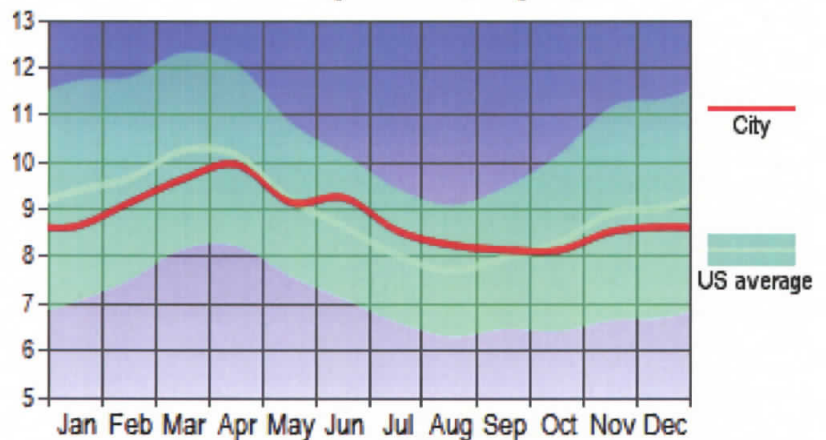
Wind

The surrounding topography plays a role in the differing wind flow that occurs across the prairie. Wind sweeps down from Northwest over the Panhandle of Idaho. The annual average wind speed for Kootenai County is 7.3 miles per hour. The wind speeds for each month are as follows:

January	7.9
February	8.1
March	7.9
April	7.7
May	7.7
June	7.1
July	6.6
August	6.8
September	6.8
October	6.6
November	7.1
December	7.6

The numerous lakes and rivers that are present within miles of the site create minimal affect besides a slightly cooler air flow.

Wind Speed (mph)



Human Characteristics

There has been minimal intervention on the site in the past. Besides the few houses that have been built adjacent to the site, no construction has yet to occur on the site. Farming has been a constant, but simply use of the land for years. The minimum, yet accurate, interference from outside factors allow for unseen distress on the land. The flat land minimizes the opportunities for erosion and the



constant upkeep and care of irrigation left the site with no visible standing water. The terrain still seems to retain its pure and organic qualities that have been there throughout history.

Soils

The Rathdrum Prairie is a glacial outwash where soils were deposited by the waters from melting glaciers. It has level or gently sloping terraces and sits at an elevation of 2,200 feet above sea level. There is no surface drainage system on the prairie because of the porous nature of the soils and sand and gravel deposits are plentiful.

The soils of Kootenai County are nearly level to moderately steep, well drained and mantled with loess and volcanic ash. Typically, the soils in this area have a gravelly silt loam surface layer, a gravelly silt loam and very gravelly loam subsoil, and a very gravelly coarse sand substratum.

Some areas on the prairie are used for farming small grain, hay and pasture. The main limitations for farming are the large amount of coarse fragments in the soil profile and the rapid permeability of the substratum, which can cause the soils to be draughty. However, the soils in this area have good potential for residential or urban development. A condition to take under consideration is the fact that because of the rapid permeability and coarse fragments, the function of sanitary facilities is limited.

There are three main soil types that cover the site: Avonville fine gravelly silt loam (103), Garrison gravelly silt loam (119), and Narcisse silt loam (156). However, the vast majority of the site contains Avonville fine gravelly silt loam.

- Avonville Fine Gravelly Silt Loam

The Avonville soil is a very deep, well drained soil that formed in loess and volcanic ash mixed with glacial outwash material. This type of soil usually sits on slopes that range from 0 to 7 percent. Typically, the surface layer is a dark grayish brown gravelly silt loam that is about 16 inches thick. The subsoil is yellowish brown and pale brown very gravelly silt loam and very gravelly sandy loam that is about 21 inches thick. The substratum is a multicolored very gravelly sand below a depth of 37 inches. The rooting depth of the soil is more than 60 inches. Water capacity of the soil is low, while permeability is moderate. Runoff is slow, and the hazard of erosion is minor. The soil is mainly used for pasture, hay, small grain and grass seed; the soil is well adapted to irrigation. The very gravelly subsoil is the main limitation for plant growth. The main restrictions for sanitary facilities are the small stones and the rapid perme-



ability of the substratum. The soil is well suited for septic tank absorption fields.

- Garrison Gravelly Silt Loam

The Garrison soil is a very deep, somewhat greatly drained soil. This type of soil usually sits on slopes of 0 to 7 percent. Typically, the surface layer of this soil is a very dark grayish brown gravelly silt loam about 12 inches thick. The subsoil is brown and pale brown very gravelly loam about 16 inches thick, and the substratum is a yellowish brown very gravelly sandy loam and very gravelly coarse sand that sits below a depth of 27 inches. The rooting depth is more than 60 inches. The water capacity is low, while permeability is moderate. Runoff is slow to medium, and the hazard of erosion is minimal. The soil is mainly used for pasture, hay and irrigated crops; the soil is very suited to irrigation. The soil has good potential for urban and residential development. It has limitations for sanitary facilities, but is suited to septic tank absorption fields.

- Narcisse Silt Loam

Narcisse soil is very deep and moderately well drained. This type of soil usually sits on slopes of 0 to 5 percent. Typically, the surface layer is a dark grayish brown silt loam about 25 inches thick. The subsoil is very pale brown silt loam about 11 inches thick. The upper portion of the substratum is a very pale brown, very fine sandy loam about 15 inches thick, while the lower portion is a very pale brown, very fine sandy loam below a depth of about 51 inches. The rooting depth is 60 inches or more. The available water capacity is high, while permeability is moderate. Runoff is slow to medium, and the hazard of erosion is minimal to moderate. The soil is mainly used for pasture, hay, grass seed and small grain. A seasonal high water table is at a depth of 36 to 60 inches. The main limitations for sanitary facilities and roads are the possibilities of high water tables.

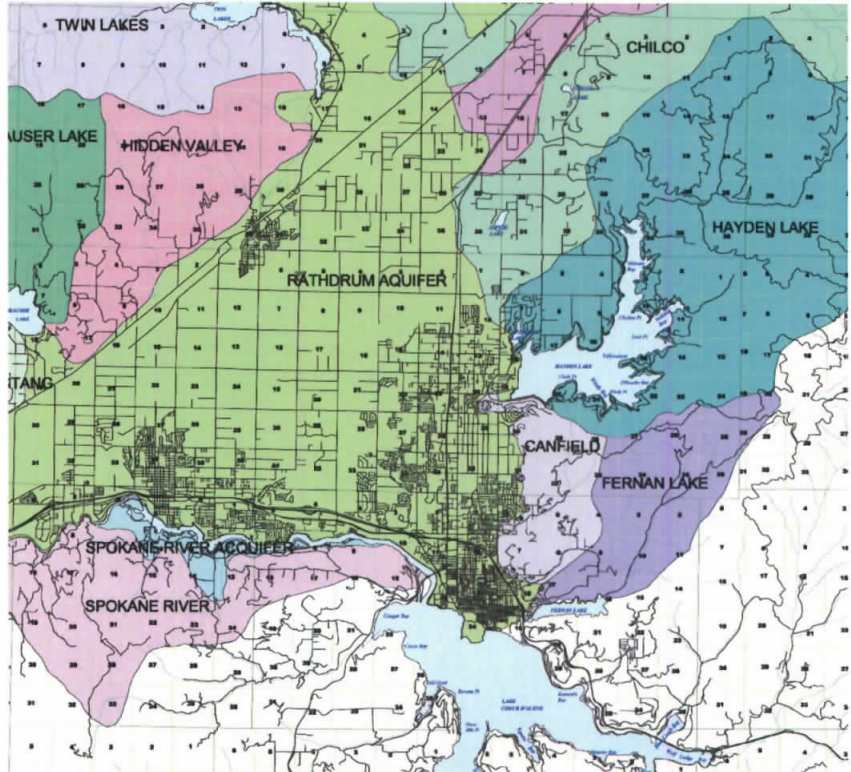
Water

The Rathdrum Prairie is located on the Rathdrum Aquifer. This is an important factor to consider because of its highly protected status under the EPA. In 1978, the aquifer was designated as a sole source aquifer, the first in Idaho and second in the nation. It originates at the southern end of Lake Pend Oreille and extends west under the Rathdrum Prairie in Idaho and into the Spokane Valley in Washington. The aquifer consists of approximately 321 square miles of land. It is the region's sole source of drinking water for roughly 400,000 citizens. The depth of the water table var-



ies from 450 feet in Idaho to only 50 feet at some points in Washington; at the proposed site the water table runs from 200-300 feet in depth. The total flow is estimated to be 750 cubic feet per second, or 485 million gallons per day.

Due to the soils that compose the site and their moderate permeability characteristics, rapid drainage is present throughout the area. This can form a challenge in the protection from hazardous materials and should be directly addressed.



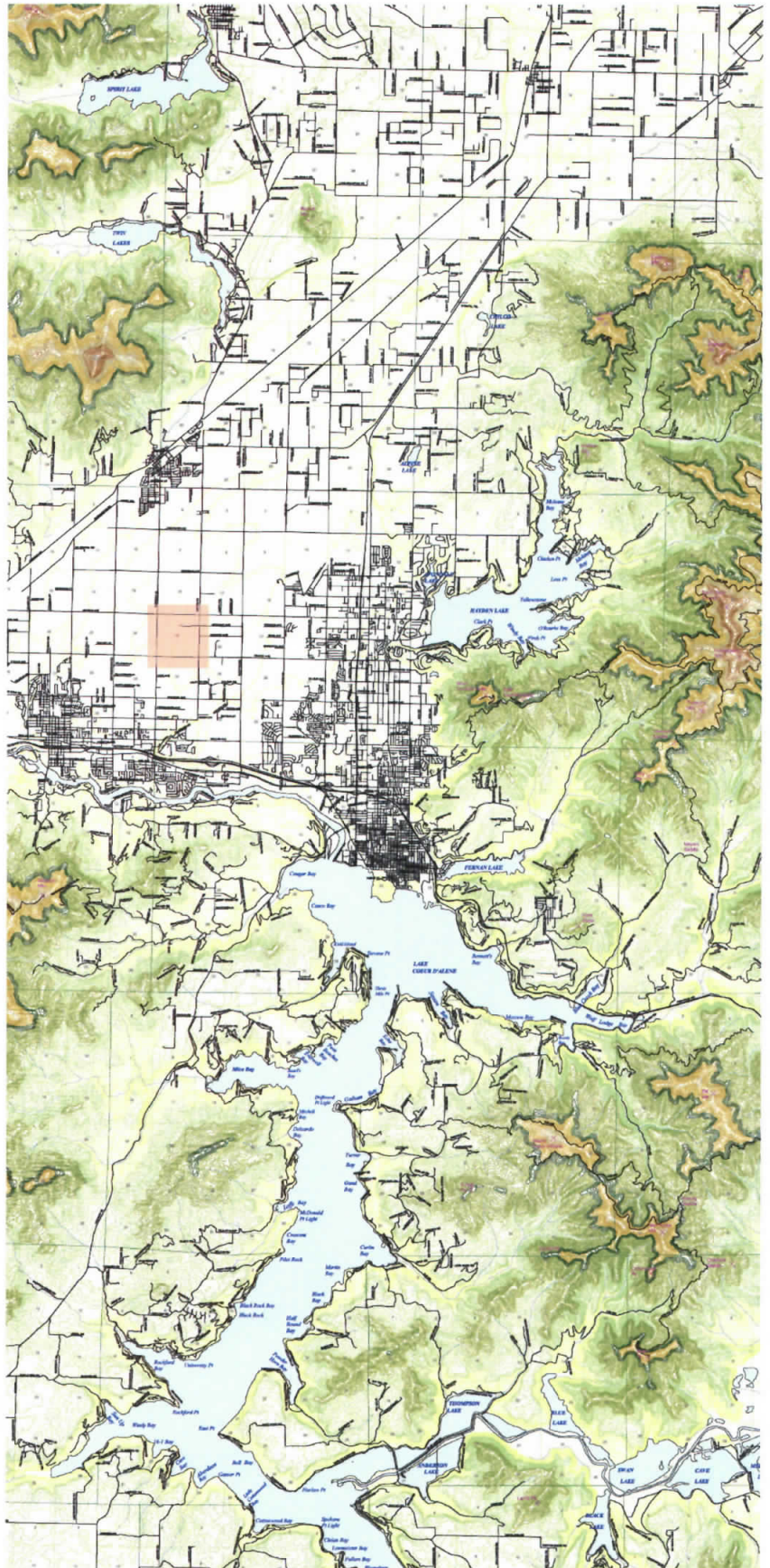
Vehicular Traffic

The site is bordered to the East by Meyer Road and to the South by Prairie Avenue. Both roads are currently two lanes, but Prairie Avenue is a well traveled road because it is a direct connection between Interstate 95, or Coeur d'Alene, and Highway 53, or Post Falls. Meyer Road is a residential road. At the present time, it is being proposed that Prairie Avenue be turned into four lanes.

Pedestrian Traffic

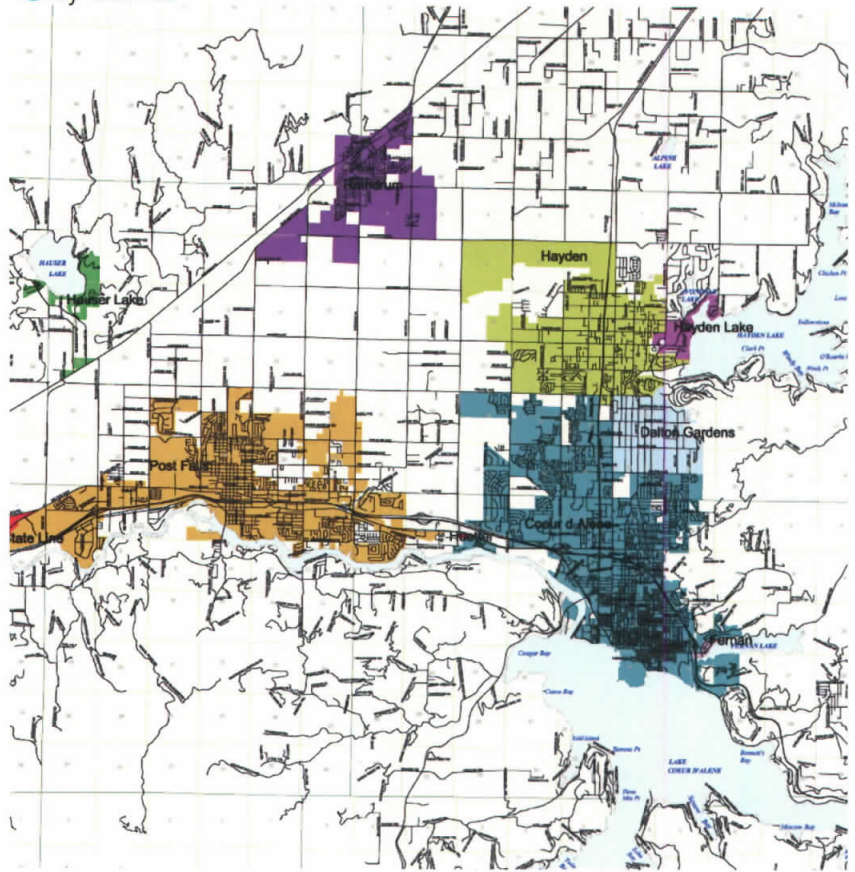
Presently there are no sidewalks or trails that run along or near the site. There is a possibility of sidewalks being added along Prairie Avenue in addition to its extension into four lanes. There is an abandoned railroad that runs across the Southwest corner of the site and it is currently being proposed to be turned into a public bike/walking path that will extend from Downtown Coeur d'Alene to Rathdrum.

Topography





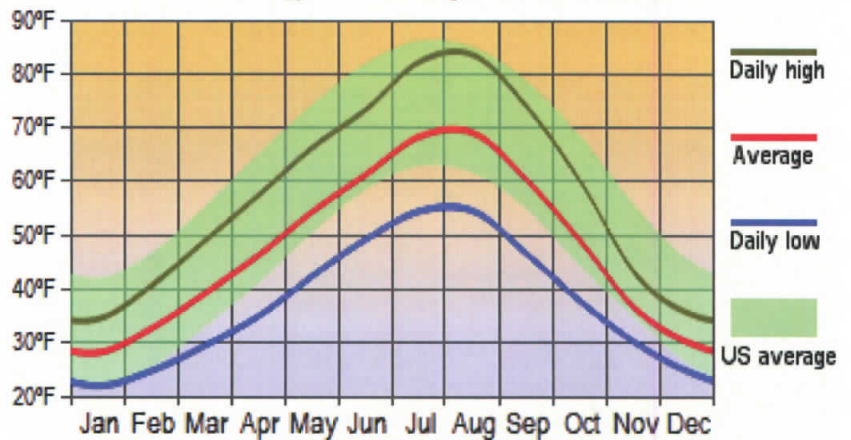
City Limits



Temperature

In Kootenai County, summers are warm and hot in most of the valleys and much cooler as you get into the mountains. Winters are cold in the valleys because of the cold air drainage off the mountains. In winter, the average temperature is 30.6 degrees F, and the average daily minimum in 23.4 degrees. In summer, the average temperature is 65.0 degrees F, and the average daily maximum is 81.5 degrees.

Average Temperatures

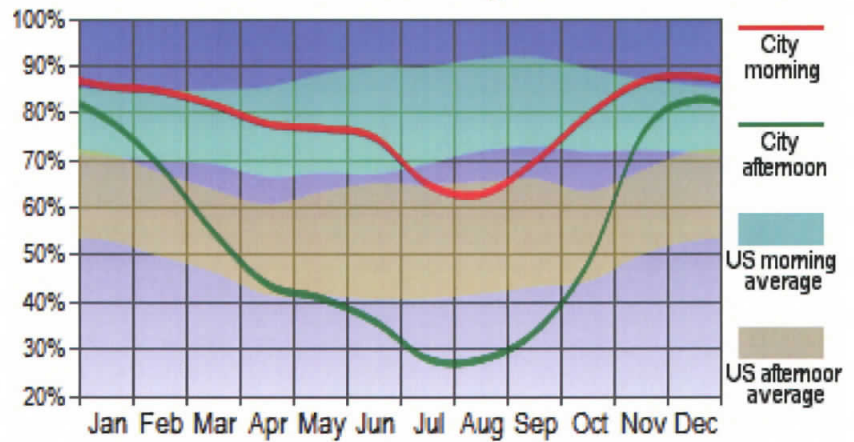




Humidity

The average relative humidity in mid-afternoon is less than 44 percent in the spring, and is about 50 percent during the fall.

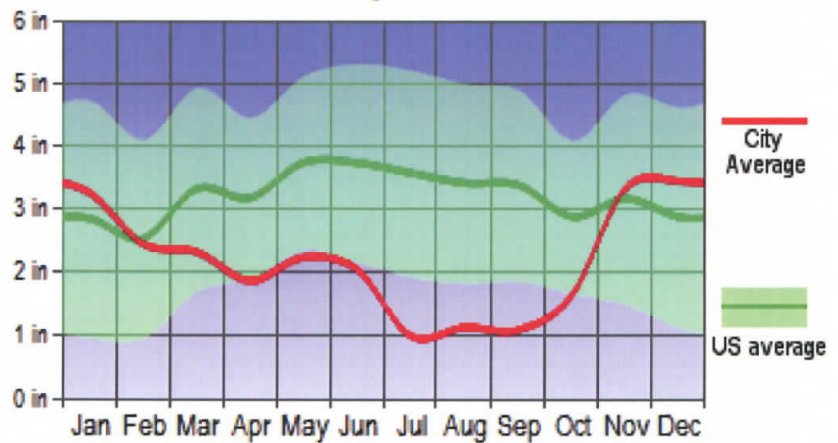
Humidity



Precipitation

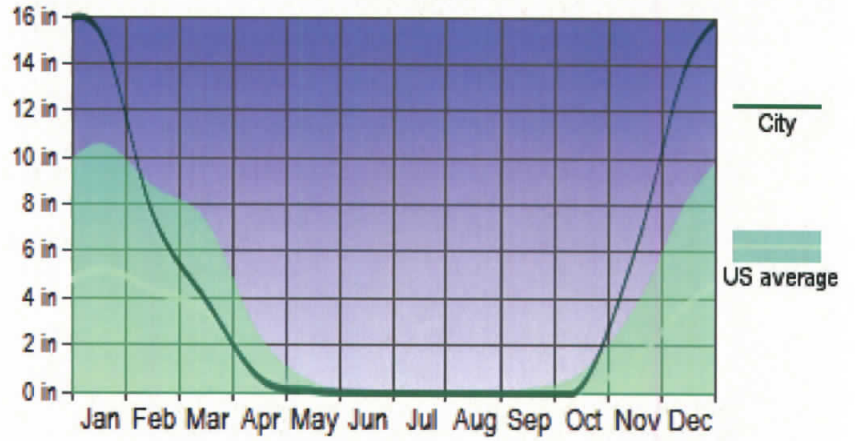
The total annual precipitation is about 30.16 inches. Of this total, 10.84 inches, or about 36 percent, generally falls from April through September. Precipitation occurs in the mountains throughout the year, and a deep snowpack accumulates during the winter months. Snowmelt usually supplies much more water than can be used for agriculture in the county. In the valleys, precipitation in summer generally falls as showers, but some thunderstorms occur. In winter, snow covers the ground most of the time, though warm, dry Chinook winds from the west often melt and evaporate the snow. The average seasonal snowfall is 59.3 inches.

Precipitation



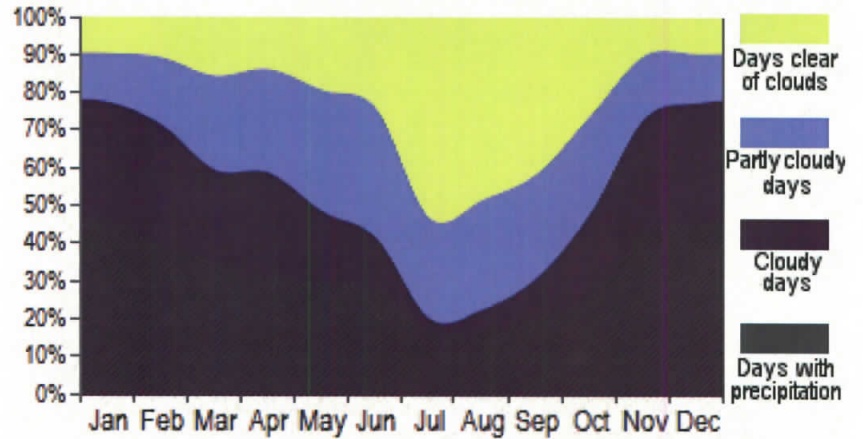


Snowfall



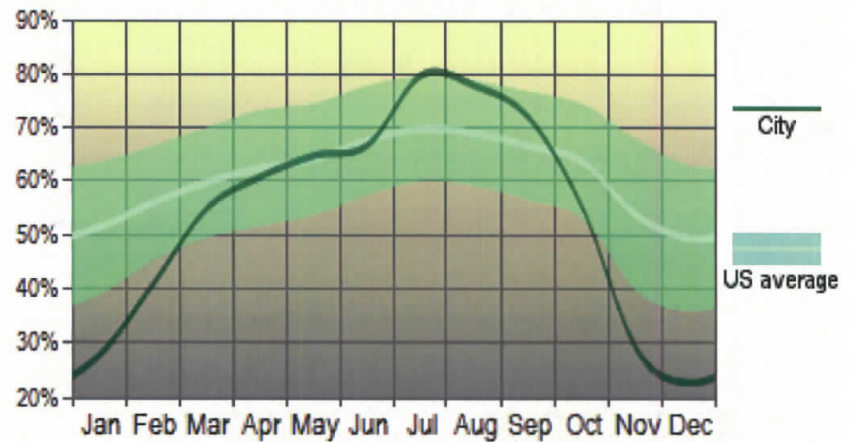
Cloudiness

Cloudy Days



Sun

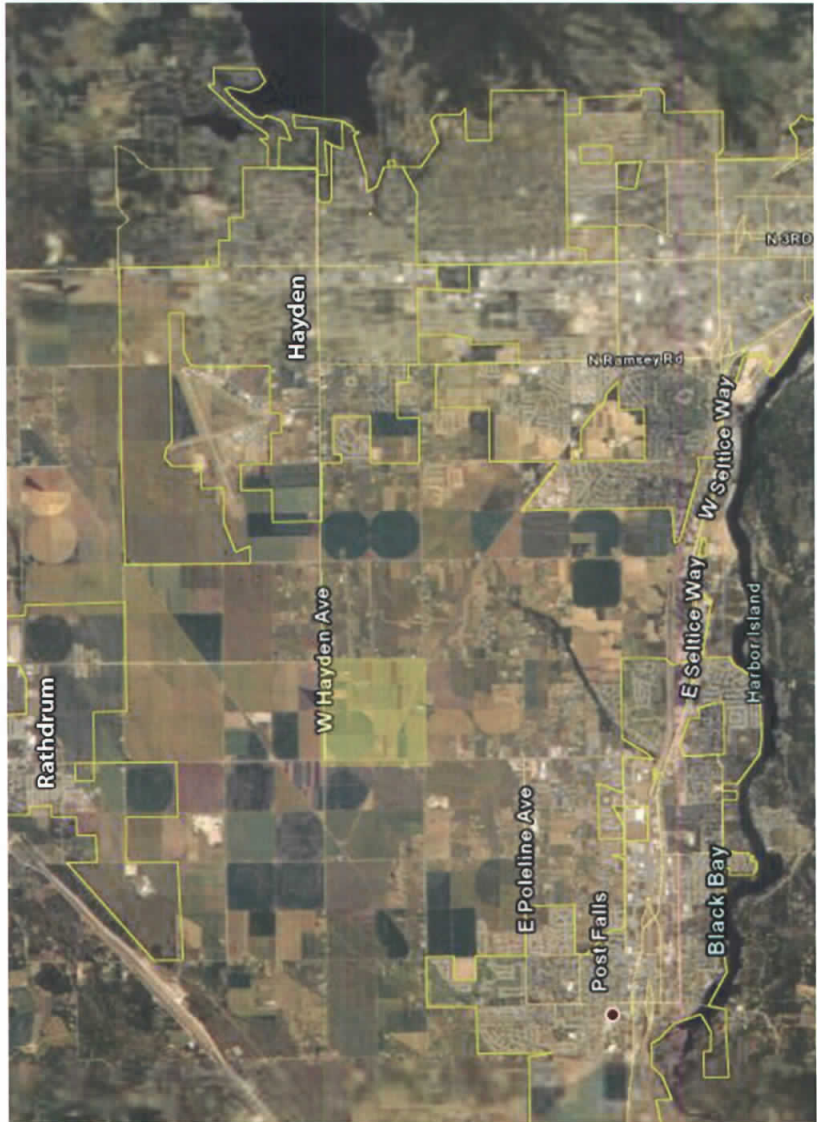
Sunshine



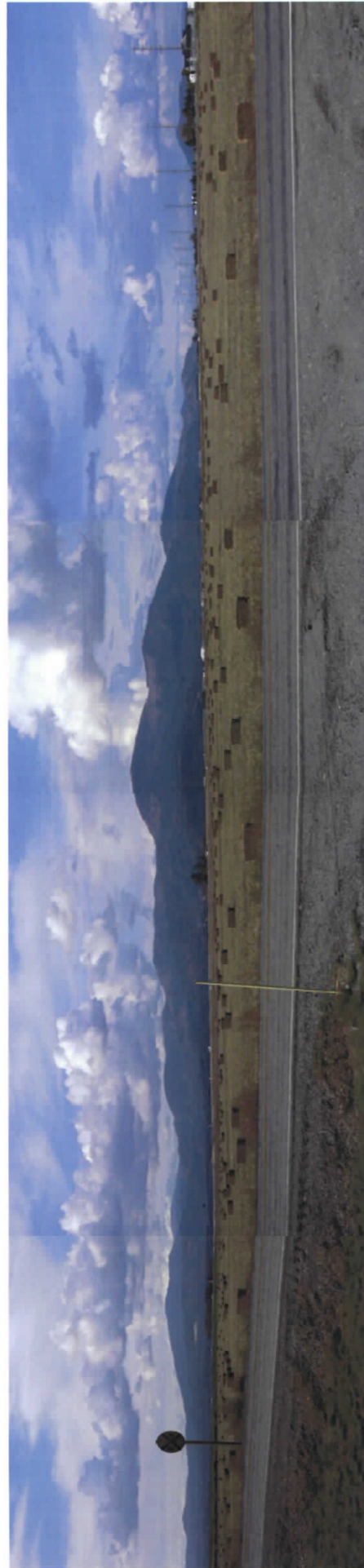


P

hotographs



SITE: Aerial View



SITE: Panoramic View



North View



Northwest View



West View



West View



Southwest View



Southwest View



West View - Prairie Avenue



East View - Prairie Avenue



Northeast View - Southeast Corner of Site



Adjacent Land to the North



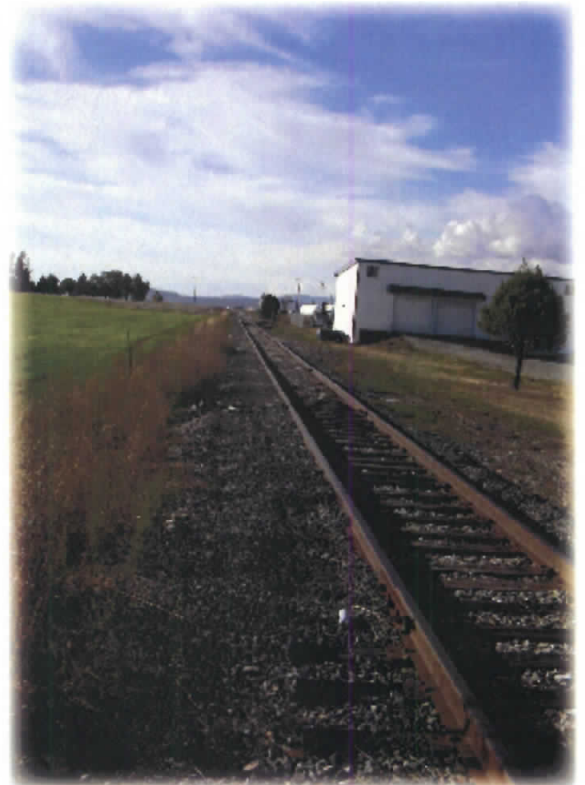
North View - Meyer Road



North View - Meyer Road, Existing Railroad Tracks



Southeast View - Railroad Tracks



Northwest View - Railroad Tracks



South View - Meyer Road



Southwest View - Northwest Corner of Site



South View



Southwest View from Meyer Road



Southwest View from Meyer Road



Programmatic Requirements



Space Allocation

OUTDOOR:

Baseball	4 Diamonds
Softball	4 Diamonds
Soccer	3 Fields
Tennis	5 Courts
Basketball	6 Courts
Volleyball	4 Courts
Pools	2
Track	
Playground	
Skatepark	
Bike Path	
Restrooms	
Concessions	
Maintenance/Storage	

INDOOR:

Lobby/Exhibit Area	14,000 sf
Cafe	7,600 sf
Kitchen	2,900 sf
Game Room	4,200 sf
Restrooms	4,600 sf
Bike Shop	8,400 sf
Conference Rooms	14,000 sf
Mechanical	11,000 sf
Rock Climbing	20,000 sf
Aerobics Rooms	4,800 sf
Dance Studios	7,400 sf
Locker Rooms	14,000 sf
Day Care	4,500 sf
Offices	3,000 sf
Gym/Weight Room	31,000 sf
Art Rooms	6,500 sf
Gallery	28,000 sf
Outdoor Roof Garden	19,800 sf
Pool Area	11,000 sf
Volleyball	9,700 sf
Basketball	9,600 sf
Soccer	10,800 sf
Baseball/Softball Batting Cages ..	9,000 sf
Circulation	18,000 sf



PARKING:

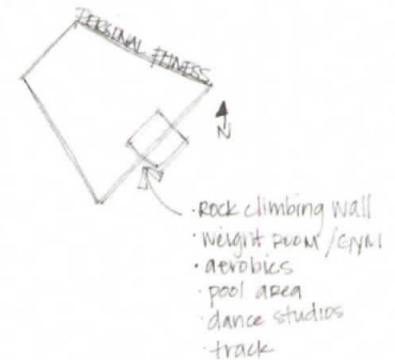
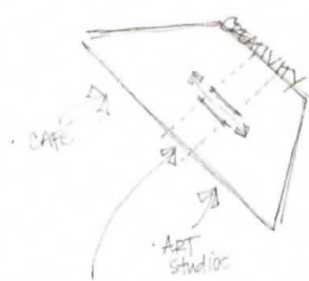
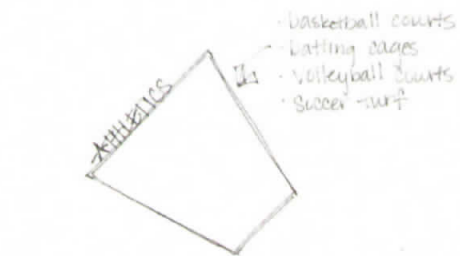
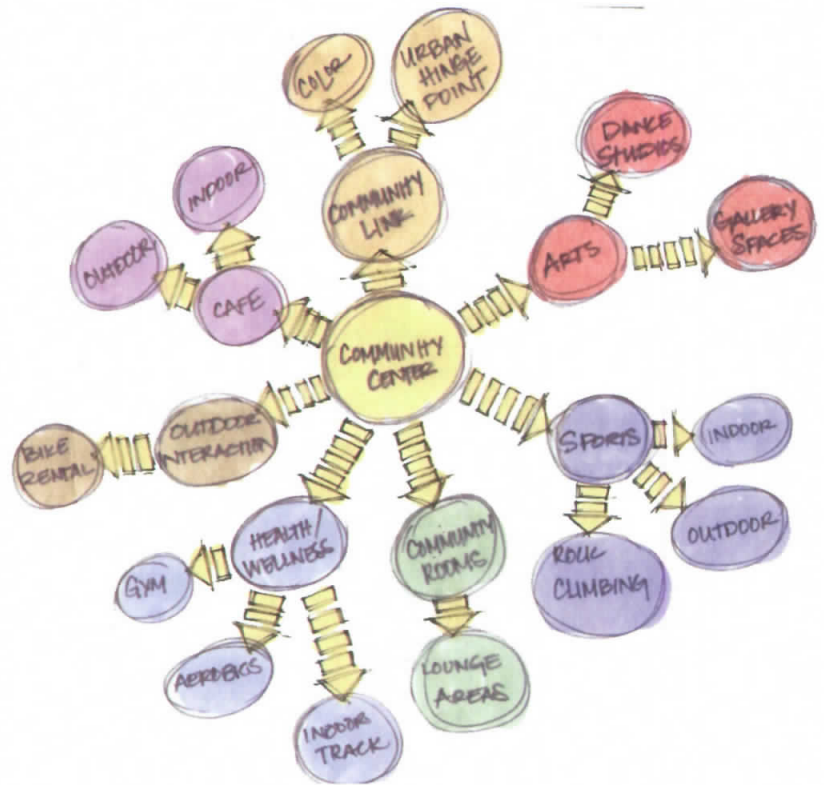
Lots	3
Spaces	600
Handicap Spaces	25
Bus Spaces	16

TOTAL:

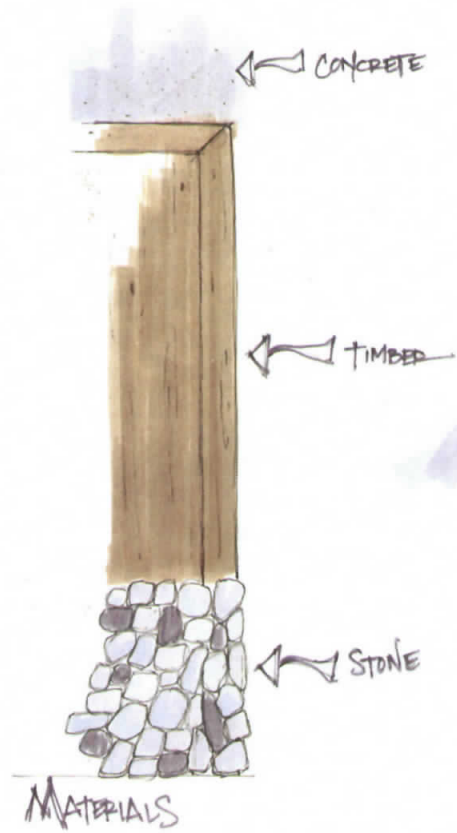
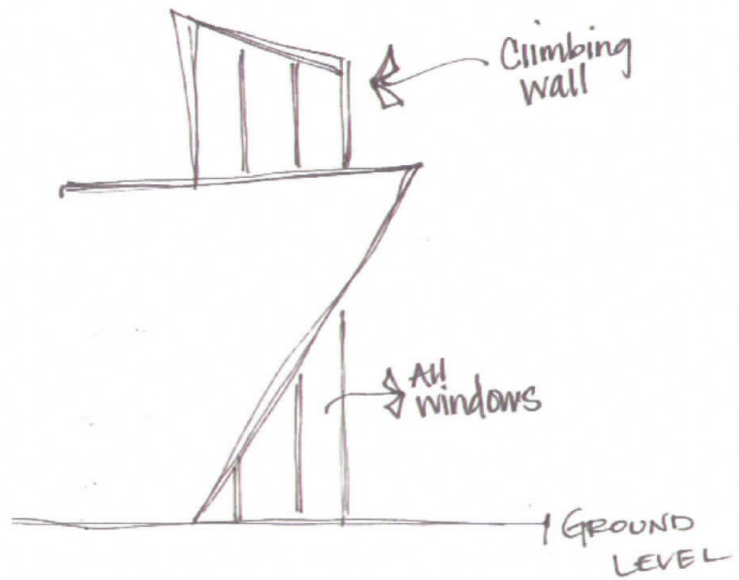
Building Area	300,000 sf
Land Area	1/2 mi. x 1/2 mi.



Final Documentation



Process Documentation



P rocess D ocumentation



VISION

Providing a facility for individuals of all ages to utilize on a daily basis can provide opportunities that may not be available elsewhere. A new community center can help unify, strengthen and interlock the four surrounding cities, as well as provide a new environment in which area groups can participate in a wide variety of activities.

The programs proposed cover a wide range of interests, both external and internal. These include athletics and the arts, as well as personal satisfaction, health, and self-esteem.

MOTIVE

Not only is a new community center essential for the residents of Kootenai County, but since the site was chosen on the open prairie, there is potential for the expansion of future projects and the ability to develop and provide a fresh, new urban environment. With new housing developing nearby, a new urban setting can present a unique, innovative design for the never-developed area. The new setting would provide convenience for those living nearby, without taking away from the excitement and animation of the surrounding four cities.

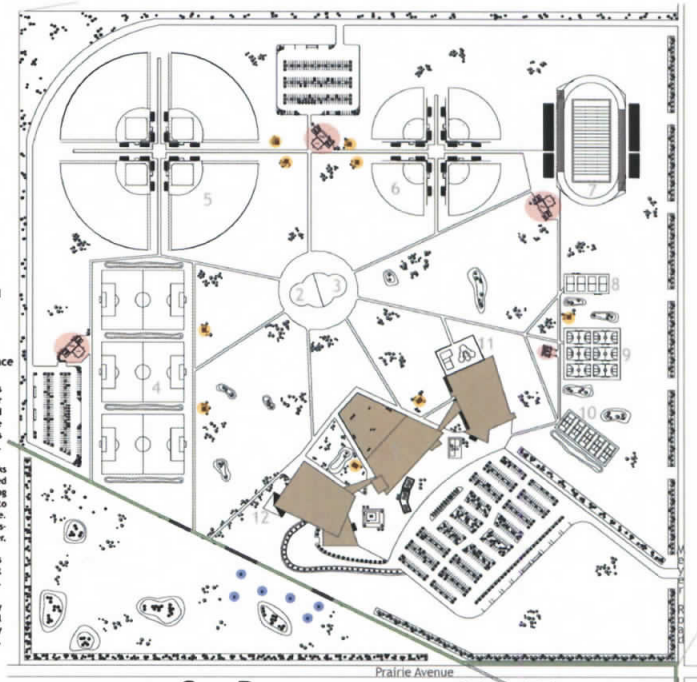
1. Proposed Buildings
2. Playground
3. Skatepark
4. Soccer Fields
5. Baseball Fields
6. Softball Fields
7. Track/Football Field
8. Volleyball Courts
9. Basketball Courts
10. Tennis Courts
11. Swimming Pools
12. Outdoor Eating Space

Outdoor concessions with storage for outdoor maintenance. Included are restrooms for close proximity to outdoor sports and recreation activities.

Abandoned railroad tracks proposed to be converted into a public bike/walking trail that would connect to Downtown Coeur d'Alene. Transform into a cross-country/ski trail in the winter.

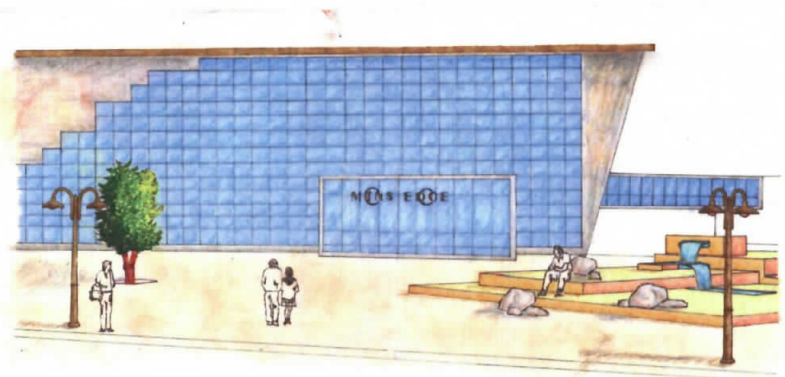
Timber framed pergolas to provide shade and rest areas throughout site.

Picnic areas designed away from outdoor recreational activities to provide privacy and a sense of serenity.



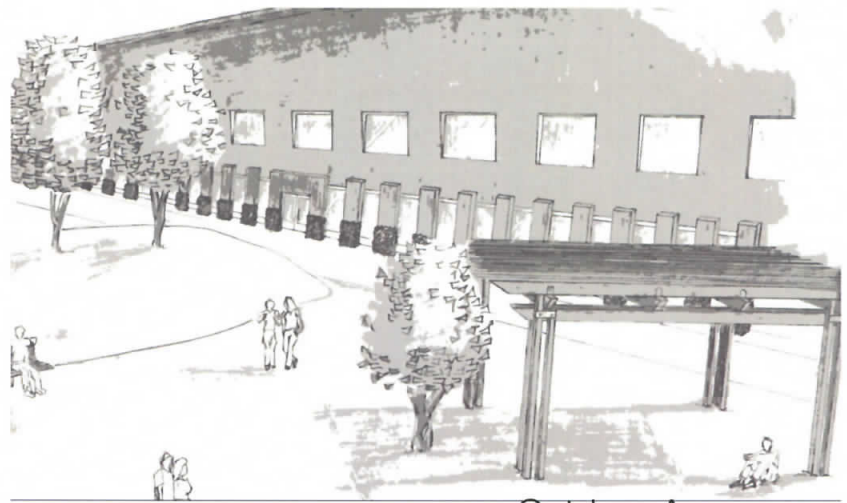
Site Plan

Project Solution



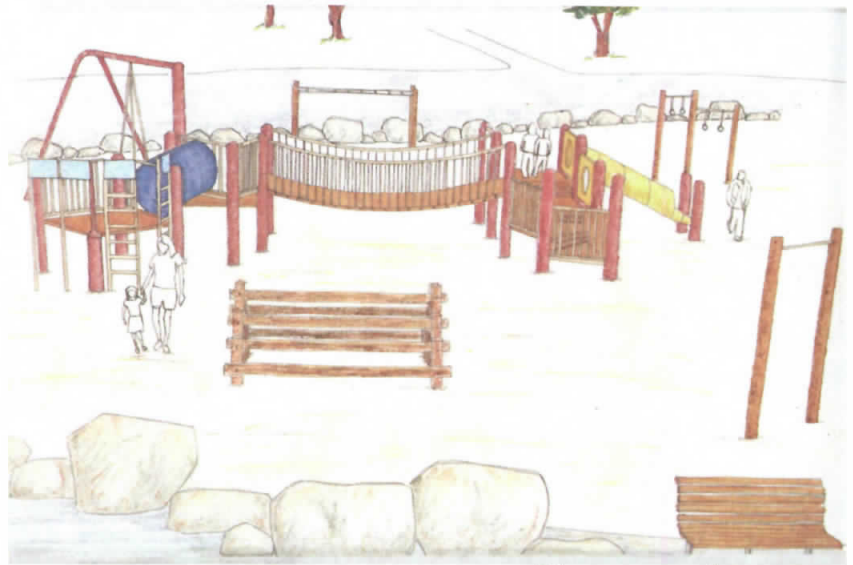
Exterior Perspective

The numerous windows used throughout the buildings provide a good source of natural daylight, as well as adding a very open feeling to the front of the facility.



Outdoor Area

P roject S olution

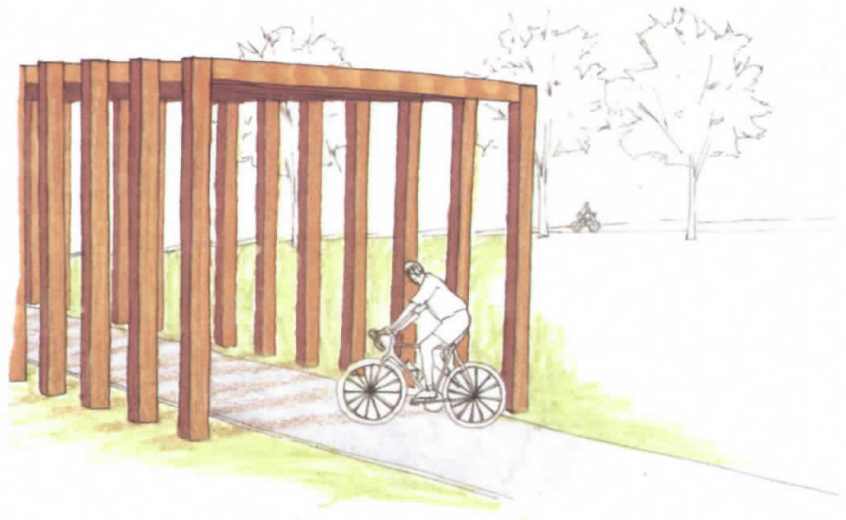


Playground



Skatepark

Project Solution



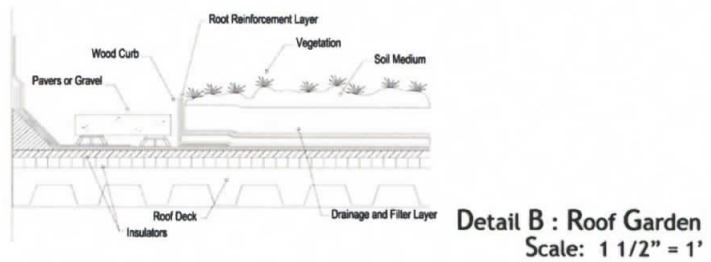
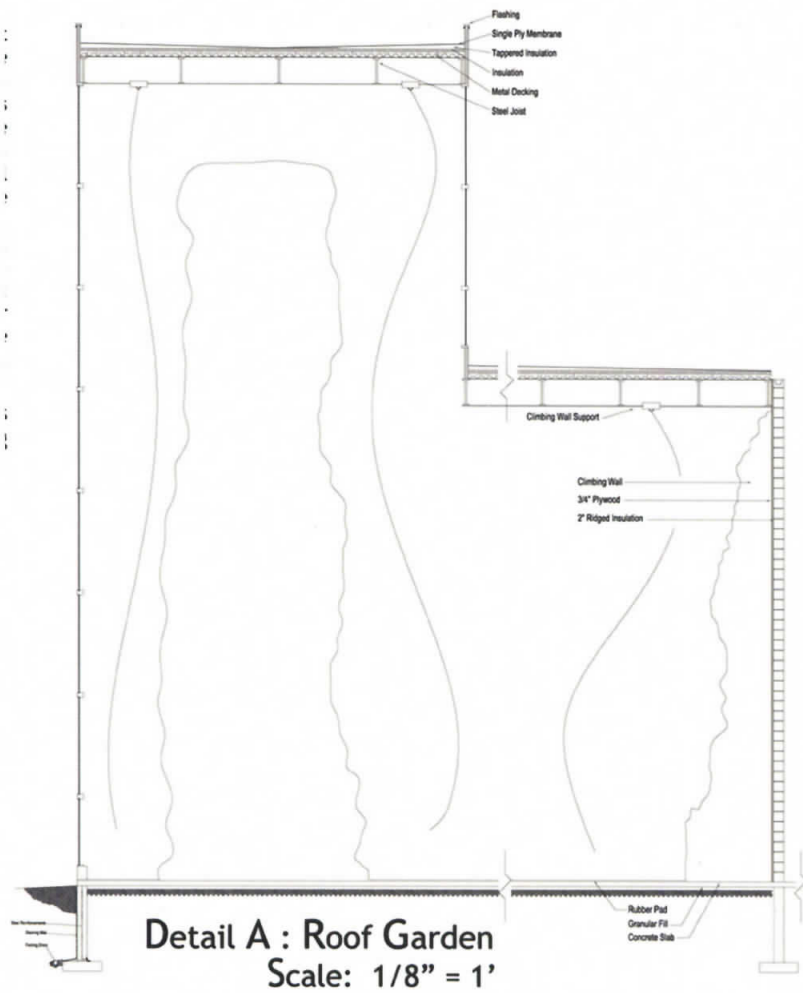
Bike Trail

A bike trail is proposed over the railroad tracks that cut across the southwest corner of the site. This trail will connect to the existing trails around the area, as well as connecting the cities together. The trail will act as a walking/ biking trail during the summer months and a cross-country trail during the winter months.

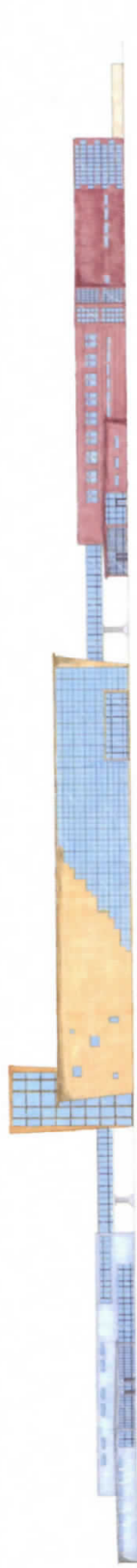


Interior Perspective

Project Solution



Project Solution



Northwest Elevation



Southeast Elevation

Project Solution



Brit Douglas



A special 'Thanks' to those who made studio an enjoyable, yet interesting, time! Never was there a dull moment.

“Little Houses All In A Row;
Simple Lives Lived Just So So.”



MTNS EDGE COMMUNITY CENTER

Kootenai County, Idaho
Brit Douglas Thesis 2006

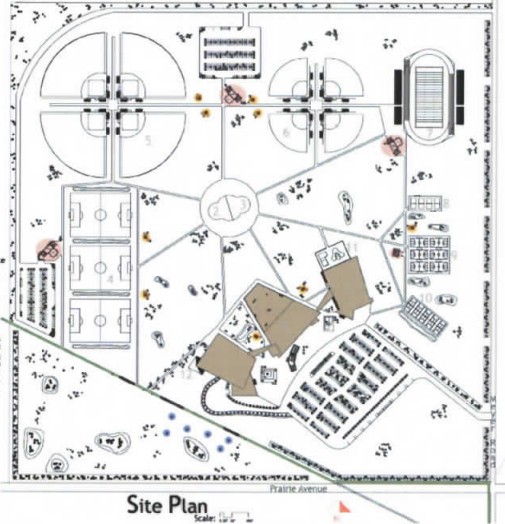
There is a fountain of youth in you when you realize the necessity of living to your LIFE
and the love of people around you. Before you reach the top of the mountain, you will enjoy the view of the valley.

VISION
Providing a facility for individuals of all ages to utilize on a daily basis can provide opportunities that may not be available elsewhere. A new community center can help unify, strengthen and interlock the four surrounding cities, as well as provide a new environment in which area groups can participate in a wide variety of activities. The programs proposed cover a wide range of interests, both external and internal. These include athletics and the arts, as well as personal satisfaction, health, and self-esteem.

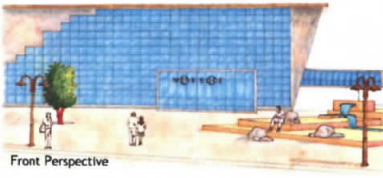
DESIGN PROCESS



1. Proposed Buildings
 2. Playground
 3. Skatepark
 4. Soccer Fields
 5. Baseball Fields
 6. Softball Fields
 7. Track/Football Field
 8. Volleyball Courts
 9. Basketball Courts
 10. Tennis Courts
 11. Swimming Pools
 12. Outdoor Eating Space
- Outdoor concrete with storage for outdoor maintenance included are restrooms for close proximity to outdoor sports and recreation activities.
- Abandoned railroad tracks proposed to be converted into a public bike/walking trail that would connect to Downtown Coeur d'Alene. Transform into a cross-country trail in the winter.
- Wooden framed pergolas to provide shade and rest areas throughout site.
- Picnic areas designed away from outdoor recreational activities to provide privacy and a sense of serenity.



Site Plan
Scale: 1/8" = 1'



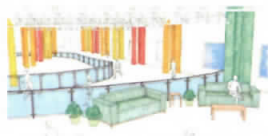
Front Perspective



Bike Trail

The community center has a full menu of recreational activities. Organized by spaces for the arts, community and community rooms that can be rented out for the public use, as well as a drop-in day care. The arrangement of spaces separates the different activities, while maintaining the openness of the spaces.

The materials introduced throughout the building provide a good source of natural daylight, as well as adding a visual rhythm to the front of the building. Larger lobby areas define the entrance of the spaces.



Interior Perspective

Color is energy and has a physical effect on each individual. Each color has fundamental psychological properties that relate respectively to the body, the mind, the emotions and the emotional balance between these three.

Red is a powerful color. Its effect is physical: it stimulates and raises the pulse rate. Representative of physical courage, strength, energy and stimulation. Before the 19th and 20th centuries, it was the color of justice and authority. Representative of strength, confidence and courage. Orange fosters the sense of humor, physical comfort and warmth. Representative of warmth, energy, action and fun.

Green is neutral. It is the color of balance. Representative of harmony and equilibrium. Yellow is the color of the mind and is soothing in effect. It stimulates a happiness, cheerfulness and gains the need for communication, intelligence, communication, and reflection.

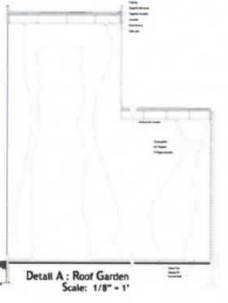
Color variety is large when the activity that occurs in space. The color is a significant factor in determining the emotion and reaction to different spaces.



Skate Park



Park



Detail A: Roof Garden
Scale: 1/8" = 1'

Northwest Elevation
Scale: 1/32" = 1'



Proposed Site

Digital Presentation



MINS EDGE



MOTIVE
 Not only is a new community center essential for the residents of Kootenai County, but since the site was chosen on the open prairie, there is potential for the expansion of future projects and the ability to develop and provide a fresh, new urban environment. With new housing developing nearby, a new urban setting can present a unique, innovative design for the never-developed area. The new setting would provide convenience for those living nearby, without taking away from the excitement and animation of the surrounding four cities.

The expansive size of the facility may seem a bit overwhelming at first glance, but the fact that each space has direct connections to other spaces gives it a more comfortable feeling.

An 80 ft rock climbing wall provides variety in what is the surrounding landscape. The rock climbing wall extends from the site into the surrounding landscape.

An indoor outdoor cafe allows for optimal use along all four seasons. A close proximity to the lake allows for pedestrian paths and views. The cafe steps down slopes to create a more comfortable setting and multiple terraces are used to separate the cafe from other spaces, while still allowing for visual connectivity. Timber construction along portions of the outdoor seating area creates a shelter/shade, compatible that continually changes with the season of the site.

The linking structure that connects all three buildings is designed to create a large lounge area and provide transitional spaces between all three buildings on the second floor level. The multiple use of windows along the two sides of the link allows for views of the majestic landscape and visual interaction with the outside environment. The linking of these buildings allows for continuous circulation while providing separation among

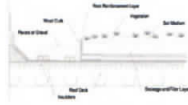
The third floor opens up to a green roof that extends the remaining area of the building. The rock climbing wall is larger as they extend to the edge of the third floor. The remaining area of the building, in contrast, is a 6 ft tall terrace, glass railing is constructed at the top of the building and extends towards the third floor until it becomes back with the height of the wall. This allows for views of the entire site without detracting from the aesthetics of the landscape walls.



First Floor
 Scale: 1/32" = 1'

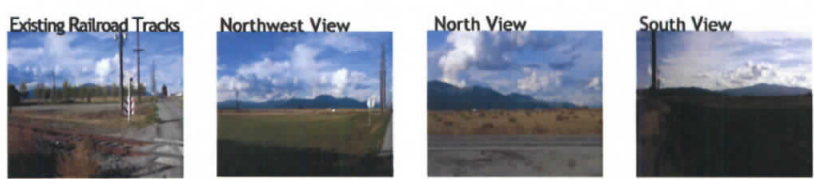
Second Floor
 Scale: 1/32" = 1'

Third Floor
 Scale: 1/32" = 1'



Detail B: Roof Garden
 Scale: 1 1/2" = 1'

Southeast Elevation
 Scale: 1/32" = 1'



Digital Presentation



Appendix



References:

Case Study References:

Brownawell, Robert. "Tostrud Athletic Center: Structural Design Challenges." Ellerbe Becket, Inc. http://www.ellerbebecket.com/uploads/Tostrud_Structural.html. 15 November 2005.

Canty, Donald J. (1991, June). Group Effort. *Architectural Record*, 179, 68-73.

Gaskie, Margaret. (1991, June). Buried Pleasure. *Architectural Record*, 179, 92-99.

Gaskie, Margaret. (1989, November). Recreation Serves and Shapes A Community. *Architectural Record*, 177, 100-103.

LMN Architects. "Fleet Recreation Complex." <http://www.lmnarchitects.com/projects/project.asp?mkt+5&prj=139>. 21 November 2005.

Recreation Management. "Hamilton Indoor Recreation Center." September 2005. http://www.recmanagement.com/feature_print.php?fid=200509FP01.

Stein, Karen D. (1994, August). Stretched to the Limit. *Architectural Record*, 182, 74-81.

Steven Ehrlich Architects. "BUS Wellness." http://www.s-ehrllich.com/ehrl_printable.asp?id=1003. 15 November 2005.

Webb, Michael. (1997, February). BUS Wellness Center. *Interiors*, 156, 56-59.

Proposal References:

Buchanan, Dr. John P. (1996). The Spokane Valley – Rathdrum Prairie Aquifer System. Retrieved October 9th, 2005, from Eastern Washington University Web site: <http://www.geology.ewu.edu/spokaq.htm>



City-Data. "Coeur d'Alene, Idaho Detailed Profile." <http://www.city-data.com/city/Coeur-d-Alene-Idaho.html>. 04 December 2005.

Coeur d'Alene Area Chamber of Commerce. (2005). Coeur d'Alene Area Chamber of Commerce: About Coeur d'Alene. Retrieved October 10th, 2005, from <http://www.cdachamber.com/AboutCda/>

Coeur d'Alene LifeStyle. "LifeStyle: Demographics." <http://www.cdalife.com/demographics.htm>. 04 December 2005.



Hovland, Dave. "Ground Water in Idaho: Idaho's Sole Source Aquifers." http://www.deq.state.id.us/water/prog_issues/ground_water/aquifers_ole_source.cfm. 05 December 2005.

Kagey Company, Inc. (2005). A Guide to North Idaho: Nuttin' but the Facts. Retrieved October 10th, 2005, from <http://www.fyinnorthidaho.com/Facts/facts.asp>

Kagey Company, Inc. (2005). A Guide to North Idaho: History and Culture. Retrieved October 10th, 2005, from <http://www.fyinnorthidaho.com/Facts/history.asp>



Kootenai County GIS & Mapping. Kootenai County Geographic Information System (GIS) and Digital Map Data. Retrieved October 9th, 2005, from Kootenai County Homepage Online via <http://www.kcgov.us/departments/mapping/>

Weisel, Charles J. "Soil Survey of Kootenai County Area, Idaho." United States Department of Agriculture Soil Conservation Service.

Theoretical Premise Research References:

"Colour Affects: Colour Psychology" <http://www.colour-affects.co.uk/psyprop.html>. 08 March 2006.

Environmental Change Institute. "What is Human Ecology?" http://www.eci.ox.ac.uk/humaneco/he_whatish.html. 02 December 2005.





Gruen, Victor. "The Architect and the City: Environmental Architecture." *Journal of Architectural Education*. Vol 17, No 3. 96-97.

Wikipedia. "Social Relation." http://en.wikipedia.org/wiki/Social_relation. 02 December 2005.

