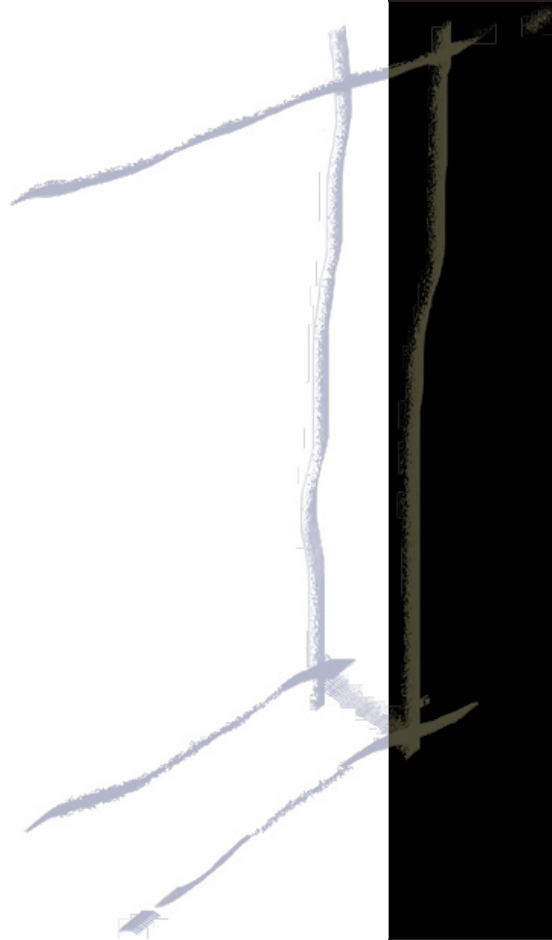


MINNESOTA JUVENILE CORRECTIONAL FACILITY



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Design Thesis 2004-2005
North Dakota State University
Department of Architecture and Landscape Architecture

MINNESOTA JUVENILE CORRECTIONAL FACILITY

Respect, Reaction, Rehabilitation

AN UNDERGRADUATE THESIS SUBMITTED TO
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by

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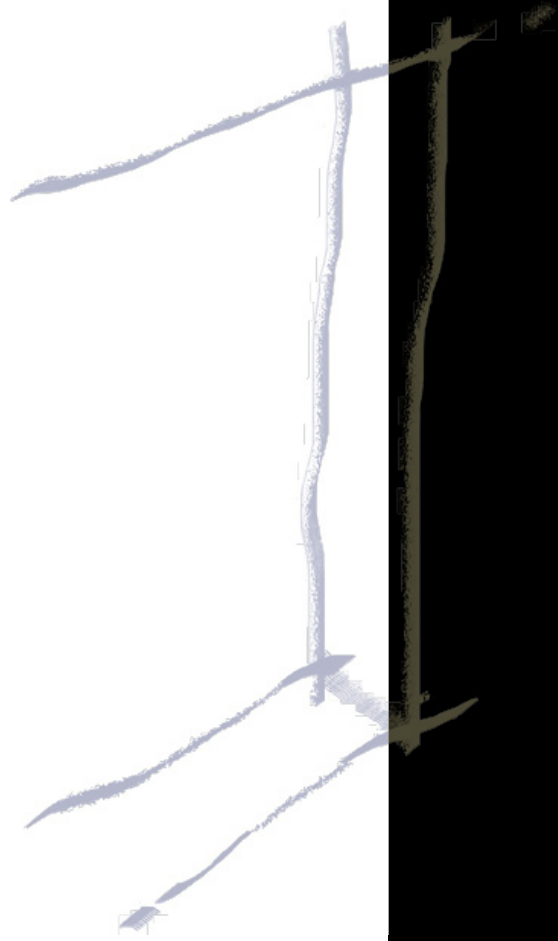
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Fargo, North Dakota

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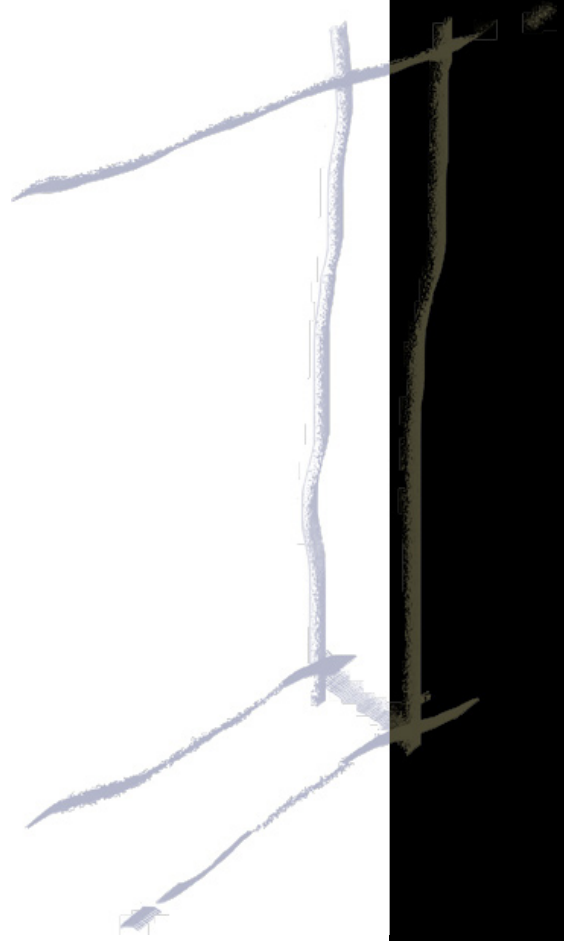
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Abstract



As a thesis project, I propose a minimum security juvenile correctional facility in Fergus Falls, Minnesota. With this low security-type, most inmates will usually spend usually no more than five years in this facility and will then be released back into the public. Because of this, the facility design will need spaces other than just individual cells. The problem will be partially solved by introducing color into the design. One challenge is that usually design solutions should be enjoyable, and a correctional facility is not an enjoyable space. The design of correctional facilities must be informed by the humane treatment of the inmates.

Project Introduction

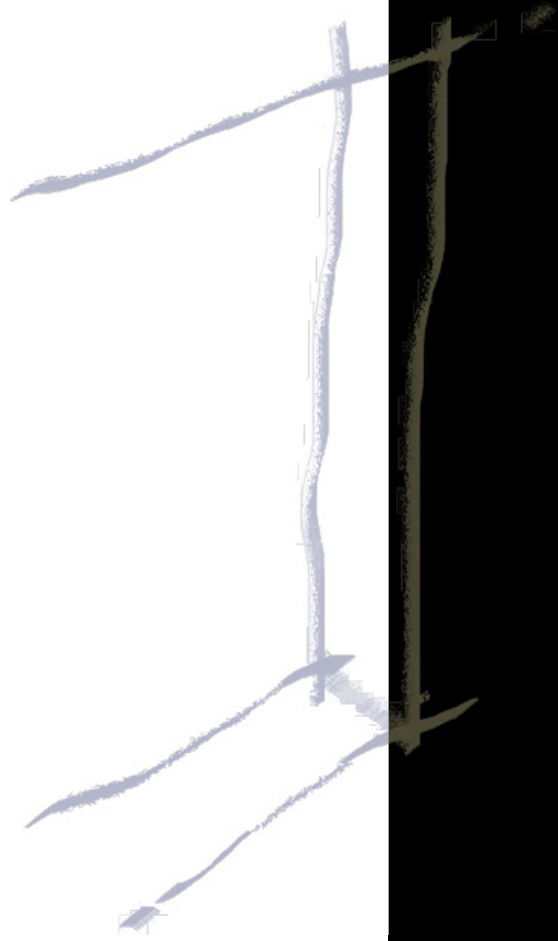


The population of correctional facilities is growing every year and often existing facilities are overcrowded. This creates a dangerous situation for the inmates, and has a devastating effect on their well-being. Explosion in prison numbers has been directly related to a staggering rate of suicides and self-harm in overcrowded prisons. In the worst of overcrowded prisons, inmates may spend 23 hours a day in a shared cell with an unscreened toilet. Overcrowding affects all aspects of prison life—attitudes and culture as well as standards of hygiene and cleanliness. The strain is felt in every level of the prison. Overcrowding leads to a situation where virtually no prisoner can be taken care of properly (Reydt). Juvenile crime is increasing as well and they need safe, clean places to be housed away from adult offenders.

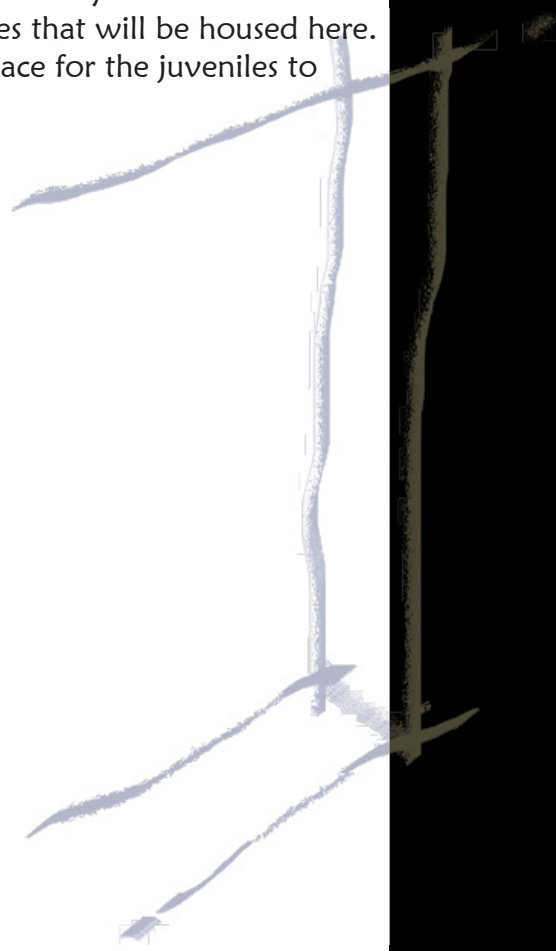
Placing inmates in dark, dreary, overcrowded facilities is not helpful to their rehabilitation. It implies that the public does not care about what happens to them and that we do not care about how they are going to function after they are released. It is believed that juveniles are capable of rehabilitation.

The site for this thesis is located on the grounds of the current county fairgrounds in Fergus Falls. It is within the city limits, which will help with recruiting and maintaining a diverse workforce.

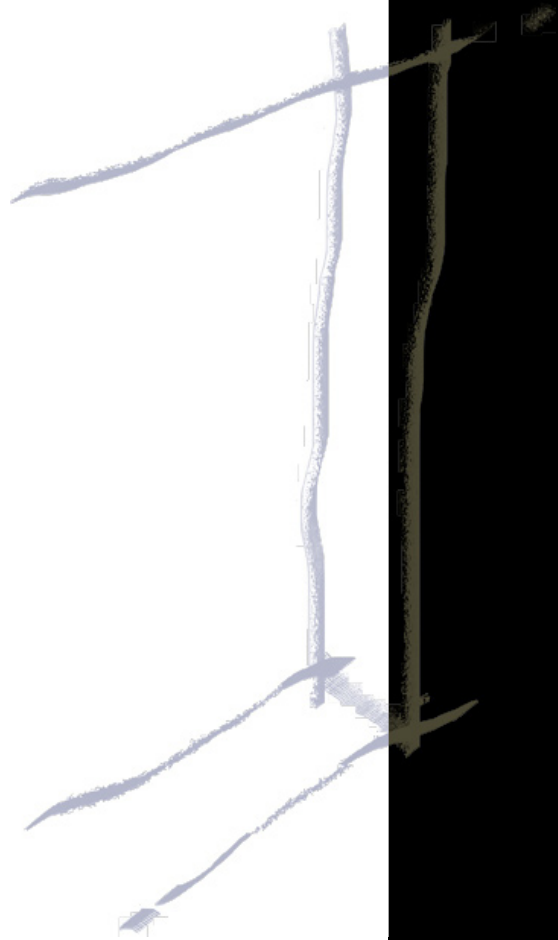
Underlying Premise



The underlying premise for this project is the humane treatment of inmates. The design of correctional facilities should be such that it encourages the rehabilitation of inmates. Correctional facilities need not be enjoyable spaces, nor should they be a place that stifles rehabilitation. The purpose of this facility is to enable and enhance the rehabilitation of the juveniles that will be housed here. The facility will provide the necessary space for the juveniles to prepare to be reintegrated into society.



Project Description



Conceptual underpinnings

Focus will be placed on how color affects the attitudes and behaviors of people. The building itself will be a tool to help aid in rehabilitation by teaching about architecture and the environment. Teaching about these things will provide the juveniles with ideas on the opportunities in the world that are waiting for them when they return to society.

Major project elements:

- Visiting/waiting area
- Staff offices
- Classrooms
- Computer room
- Individual cells
- Common area
- Restrooms
- Shower room(s)
- Storage
- Library
- Chapel
- Gymnasium
- Cafeteria/ kitchen
- Clinic area
- Control center
- Parking

Conceptual underpinnings that have direct bearing on spaces:

Color has an effect on emotions and behaviors. What kind of effect and to what extent are inconclusive. Reactions to color are led by a combination of biological, physiological, psychological, social and cultural factors. Warm colors speed up perception of time and produce warm, cozy, inviting feelings. They are associated with excitement, happiness and comfort. Cool colors are associated with calm and peace, as well as sadness, withdrawal and repression (See Appendix A).

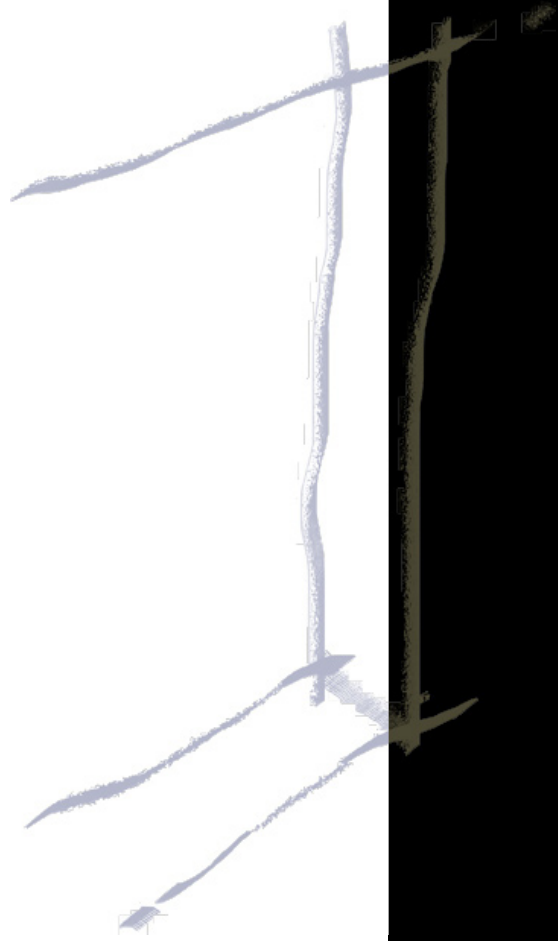
Dr. Alexander Schauss reported that when prison cells were painted pink it reduced aggressive behavior among prisoners; even colorblind persons are tranquilized by pink rooms. However, this effect is short-lived; once the body returns to a state of equilibrium, a prisoner may regress to an even more agitated state.

Color therapy does not have to mean applied color, since that can be very easily changed. This color focus will be extended to the selection of material for the exterior and interior spaces, and for the selection of materials for furniture and other furnishings. This will also be extended to plantings and choosing which colors to plant and bring into the facility.

Focus will also be placed on creating a facility that can be used as a teaching tool. This will help drive in the concept that the facility practices what they preach, so to speak. This will make the concepts that are taught more applicable and enhance understanding.

Another focus of this project is to design a facility that is atypical of most correctional facilities. Most facilities are long and linear and drab-looking and are not enjoyable to look at. A goal for this facility is to make the facility atypical-looking, yet functional.

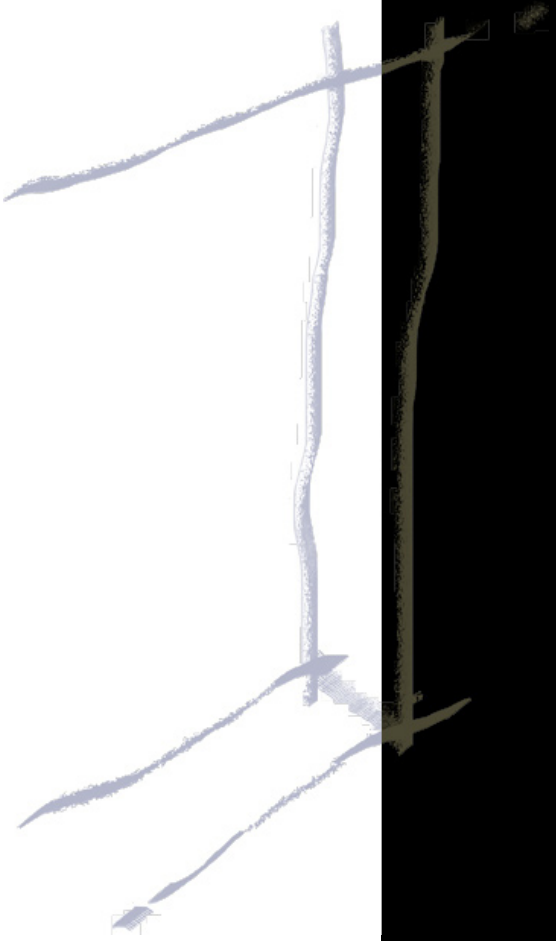
User/ Client Description



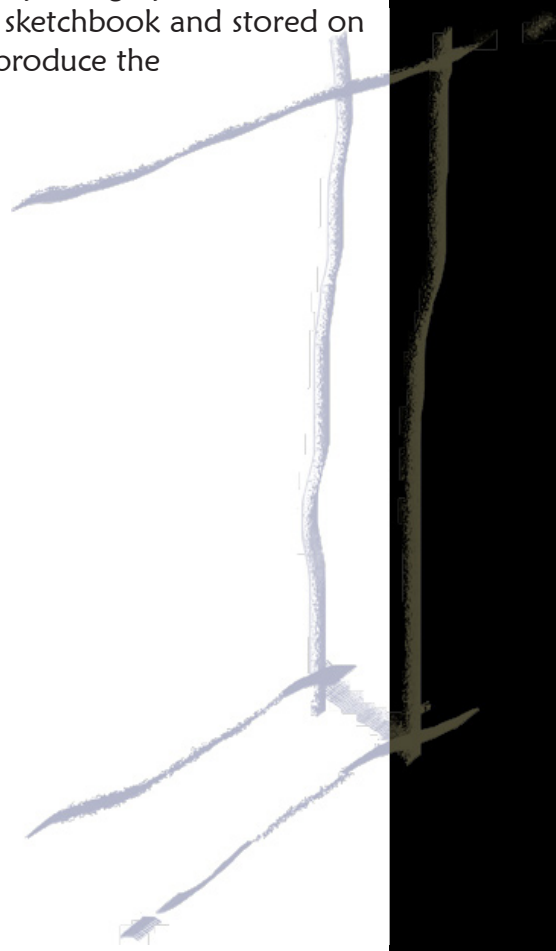
The major users for this building can be broken down into four categories. They are: the staff, visitors, service people and the inmates. The staff will include the administrator, administrative assistants, maintenance staff, and guards, as well as the teaching staff, a librarian (part-time), kitchen staff, one or two receptionists and a computer technician (part-time). The staff will also consist of local clergy that will be brought in upon request, as well as local medical staff to satisfy the medical needs of the inmates. The total numbers for the staff would be around 30-45. This will satisfy a ratio of one worker for every three inmates. The visitors would be the people who come to see inmates at the prison, with family members being the most important subgroup. Another group of visitors would be lawyers and friends who come to see the inmates. The number of visitors each day would probably range from five to ten, going all the way up to 75 on holidays. Two examples of service people would be delivery people and people who transport the inmates. They would not need any interior spaces, just exterior spaces that allow easy access to the service spaces. The inmate population would consist of 90 juvenile male inmates, ranging between the ages of twelve and seventeen.

The exact budget for this facility is unknown. It will be funded through grants from the state Department of Corrections, and most likely with money from taxpayers. The property and the facility will be state-owned. The cost of maintaining the facility will also be paid for by the state. Fees from parents will also be used for maintaining the facility.

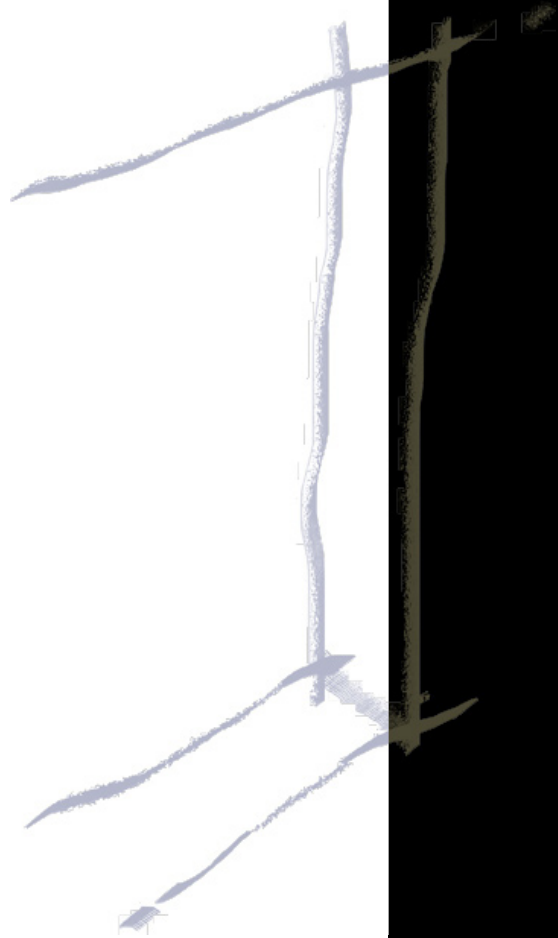
Design Methodology

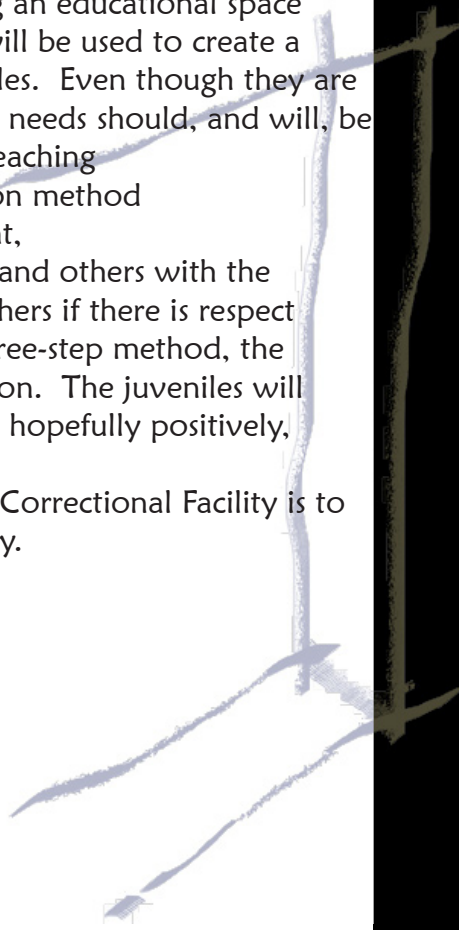


Through the use of case studies and extensive research, knowledge will be gained about what is required to design a safe prison. Interviews and visits to existing correctional facilities will also be used to create a somewhat ideal facility. The information gathered will be in the form of notes and photographs, as well as sketches. Information will be saved in a sketchbook and stored on hard disk. These efforts will be used to produce the outcome of the project.



Project Emphasis, Goals, and Objectives

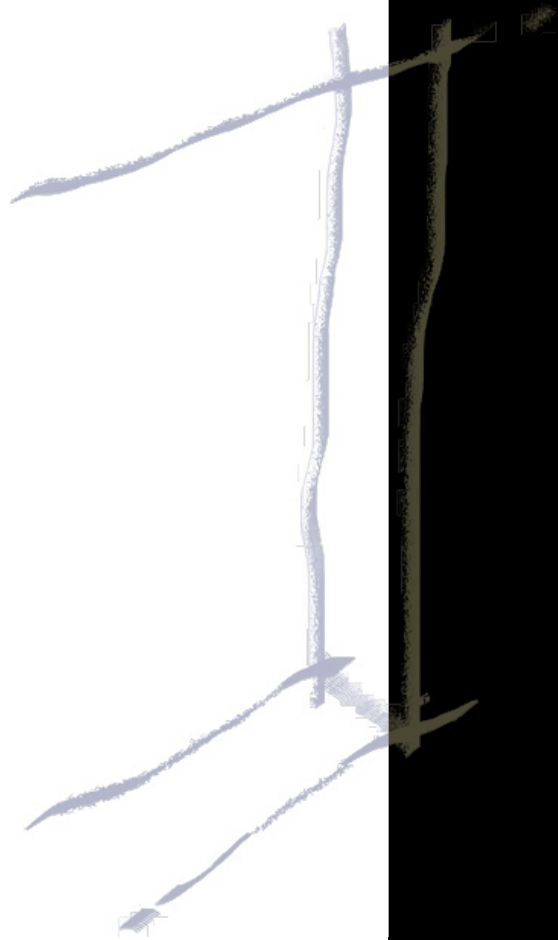




While researching, there are several issues that will be focused on. One emphasis is on the healing powers of color and how color can affect the behavior and attitude of people. This will not just be taken into account with paint, but also with materials and furnishings that can not be changed as easily as paint color. Another area of emphasis is incorporating an educational space into the facility. This educational space will be used to create a “normalized” environment for the juveniles. Even though they are in a correctional facility, their educational needs should, and will, be met. Focus will especially be placed on teaching about the environment. This rehabilitation method serve to teach respect for the environment, which will lead to respect for themselves and others with the idea that it is difficult to do harm unto others if there is respect for one another. This will be part of a three-step method, the Three R’s: Respect, Reaction, Rehabilitation. The juveniles will be taught respect, to which the will react, hopefully positively, and then be ready for rehabilitation.

A goal for the Minnesota Juvenile Correctional Facility is to create a facility that will operate efficiently.

Site Analysis



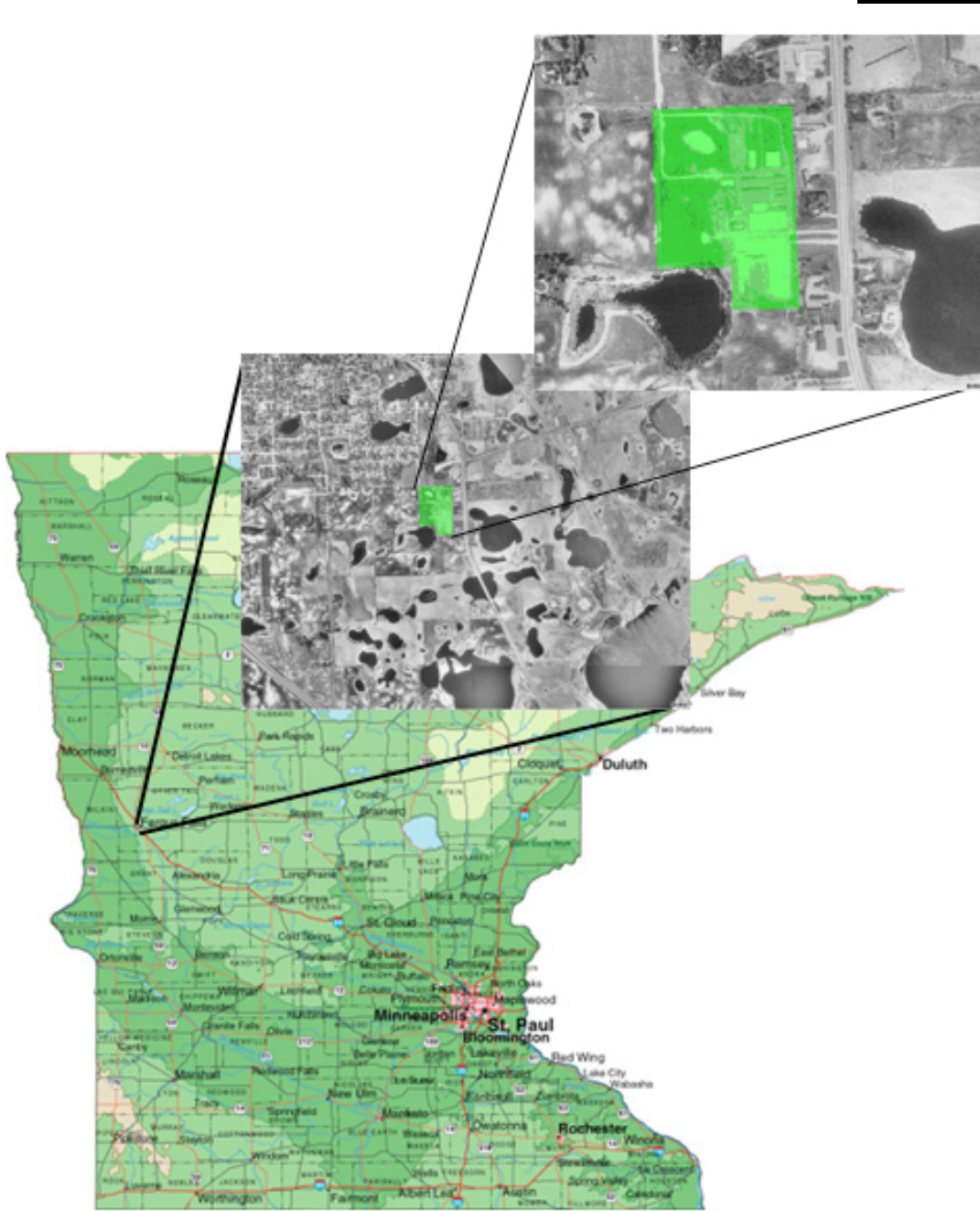


Figure 1.1 Fergus Falls (Source: <http://www.hort.purdue.edu>; <http://terraserver.microsoft.com>, Retrieved 12-5-04)

Fergus Falls has a population of 13,700. It is located in Otter Tail County in west central Minnesota, approximately 62 miles southeast of Fargo.

The specific location of the site for this project is 1812 Pebble Lake Road. This is the site of the current county fairgrounds and an indoor ice hockey arena. There are about a dozen existing buildings, including the ice arena. The buildings are used for various fair events, as well as storage in the winter.

Behavior

This site is pretty well taken care of, considering the kinds of events that go on here. Even with all the people and animals that trample around on the grounds during the summertime, the grass is in good shape and is not overgrown with weeds. The buildings are well-kept up too.

Soil

There are two major soil types on this site. They are Barnes soil and Langhei soil. These two types of soil exist in two different ratios on the site. The first is a ratio of Barnes to Langhei, and that results in a moderate slope of 6-12%. The second is a ratio of Langhei to Barnes, which results in a severe slope of 12-20%. These two types of soil have no chance of flooding and they have a low shrink-swell possibility.

Landforms

Most of the site falls within a 6-20% slope. The lower of the slopes are easy grades, which are great for easy movement and informal activities. The higher of the slopes get close to the limit that humans can handle without needing stairs. The north side is the highest point of the site, sloping down to the lower south side. The plant cover is just native grasses and the trees are deciduous. The maps in figure 6.1 show surrounding roads, minus Highway 210

to the north, which was not constructed at the time of the photo. The site is bordered by Minnesota State Highway 210, which is also County Road 25, to the north and Pebble Lake Road, which is also U.S. Highway 59, to the east. Major transportation links are State Highway 210, U.S. Highway 59, and Interstate 94, which can be accessed by going west on State Highway 210 or south on U.S. Highway 59. Major landmarks in Fergus Falls are the Minnesota State Community and Technical College and the Regional Treatment Center.



Photograph 1.1 Higher sloped area
(Source: Katie Merten 12-04-04)



Photograph 1.2 Lower sloped area
(Source: Katie Merten 12-04-04)

Climate Data

The climate in Fergus Falls is the usual Minnesota climate, with cold, dry winters and hot, humid summers (personal observation). The wind in the winter is predominately out of the northwest and the southeast, as illustrated in Figure 1.3. The wind patterns are the same in the summer. The average temperature in January is 6 degrees Fahrenheit and the average temperature in July is 70 degrees Fahrenheit. The average precipitation in January is one inch and the average precipitation in July is 3.3 inches, as shown in Figure 6.2 (City-Data).

	Jan	Jul	Dec
Average temp. (°F)	6.4	70	12.8
High temperature (°F)	16.2	80.4	21.5
Low temperature (°F)	-3.4	59.6	4.1
Precipitation (in)	1	3.3	0.5

Figure 1.2 Climate Data of Fergus Falls (Source: <http://www.city-data.com/city/Fergus-Falls-Minnesota.html>, Retrieved 12-05-04)

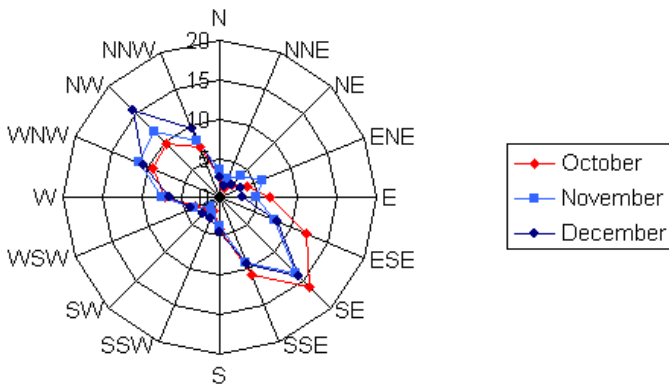
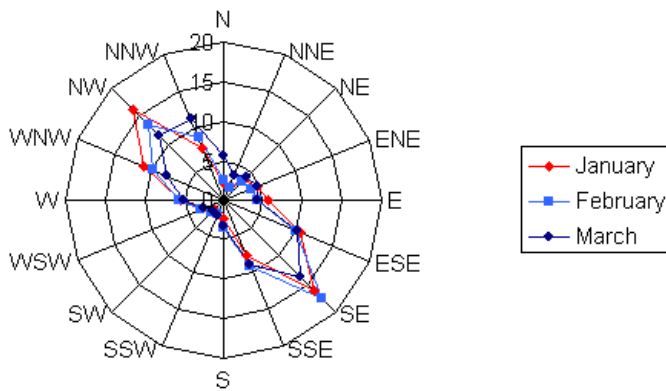


Figure 1.3 Wind Roses for Fergus Falls (Source: http://climate.umn.edu/snow_fence/Components/Wind/kffm.htm)

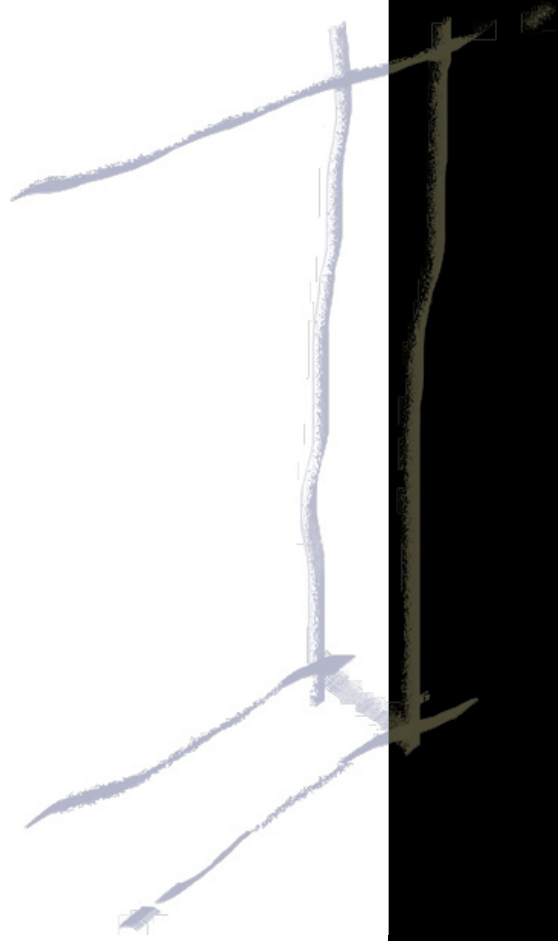
Geology

The geology of Otter Tail County is composed of greenstone and granite, which are both igneous rocks. These types of rocks are formed from a molten liquid of magma. When magma erupts above the earth's surface, it is called lava. This lava cools quickly, which results in fine-grained rocks. Magma that stays below the surface cools much slower and forms coarse-grained rocks.

Greenstone is a relatively young rock. It is greenish to gray in color. It was formed when northern Minnesota was part of a volcanic island arc. In the past, greenstone was mined for deposits of gold, copper, zinc, lead, and iron.

Granite rocks are varied in age throughout the state. These granites are made up of the minerals feldspar, quartz, mica, and hornblende. These rocks formed deep below the surface of major mountain ranges. These rocks that were once buried are now exposed due to uplift and erosion. Granite is quarried for use as building stone and monuments.

Case Studies



Crossroads Juvenile Center, Brooklyn, New York

Size: 114,500 square feet

Number of Beds: 124



Photograph 1.3 Exterior of the detention center (Source: Architectural Record 12-1998)

Site Relationships

The detention center is located in Brooklyn's Brownsville section, in an urban area. The surrounding buildings have the classic silhouette of New York brownstones. The neighborhood has aging commercial, industrial and residential buildings. Across the street is a police precinct.

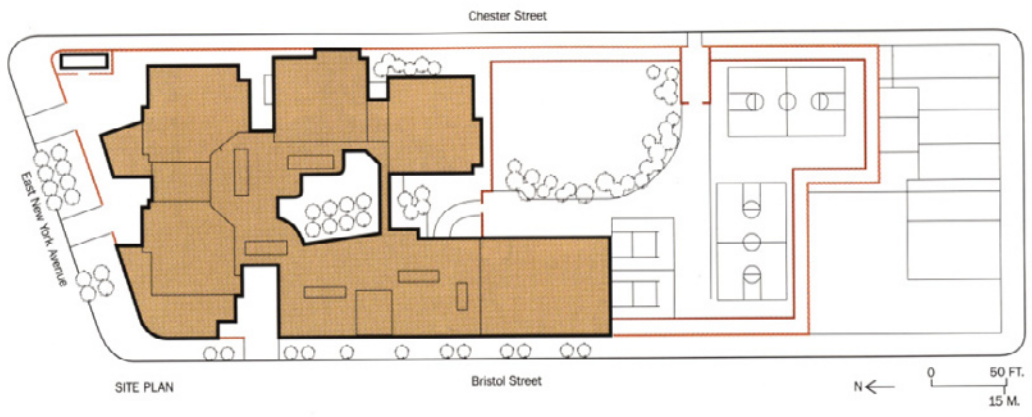


Figure 1.5 Site Plan

(Source: Architectural Record 12-1998)

Functional Relationships

The facility is a juvenile detention center. It houses alleged offenders between the ages of seven and fifteen while their cases are pending and, after sentencing, while they await transfer to state facilities. It is mostly a temporary facility; 5% remain longer than the average stay of 3.4 days.

Organizational Relationships

The facility consists of housing units, known as pods, which are designed as small residential neighborhoods. The pods have eight or sixteen single bedrooms, which allows for flexibility for housing boys or girls. Each pod has private toilets, counselor offices and enclosed outdoor spaces. Photograph 1.4 shows an example of and outdoor space.



Photograph 1.4 Enclosed outdoor space (Source: Architectural Record 12-1998)

Social and Behavioral Issues

The center believes that the time a juvenile spends in their facility is a good opportunity for them to have a positive influence on the juvenile. The residents are encouraged to rehabilitate themselves before becoming further entwined in the criminal justice system.

Structural and Material Aspects

The facility has projecting cornices and precast concrete panels.

Symbolic Meaning of Architectural Elements

The projecting cornices of the facility imitate the classic silhouette of the neighborhood brownstones. Photograph 1.3 shows the exterior of the detention center.

Design Issues

The design issues faced in this facility was creating a secure facility that did not have the typical look of other detention centers. Its outside appearance blends in with the surrounding older brownstones that are typical of New York. The new Minnesota Juvenile Correctional Facility is not going to have a typical appearance either. It will be a secure facility that is designed with creativity in mind. The New York center is a good project to look at when trying to design a facility that is secure, yet atypical of other detention centers.

Gallatin County Detention Center, Bozeman, Montana

Size: 12,426 square feet

Number of beds: 43



Photograph 1.5 Exterior of center

(Source: Architectural Record 3-1983)

Site Relationships

The facility has views of the Rockies. It is situated in the grassy plains of Bozeman, in a relatively rural part of the city. It is next to a residential subdivision and the Law and Justice Center. Because it is next to a residential area, the facility is sunk down four feet to lower the apparent height to make it fit in with its surroundings. It also has practical applications, like insulation against perimeter heat loss. Figure 1.6 shows a section of the facility which illustrates the four foot drop.

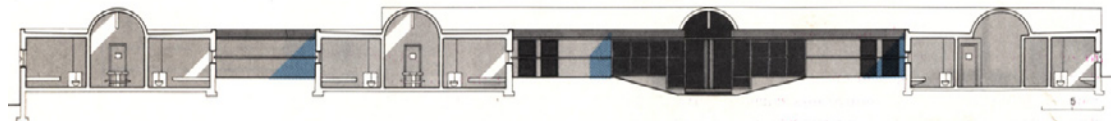


Figure 1.6 Section of facility

(Source: Architectural Record 3-1983)

Functional Relationships

The facility has 43 beds. It houses many different offenders: males, females, adults and juveniles. The client's main concern was adaptability to future expansion. Another concern was the separation of the inmates: pre-sentenced from sentenced, and juveniles from adults.

Organizational Relationships

The layout of the facility has the cell blocks laid out along a linear corridor. This makes it possible to add another 170 beds without

altering the circulation pattern. The one-story housing units allow for the flexible assignments of the different inmate groups. Figure 1.7 shows a plan illustrating the modular bays and linear corridor.

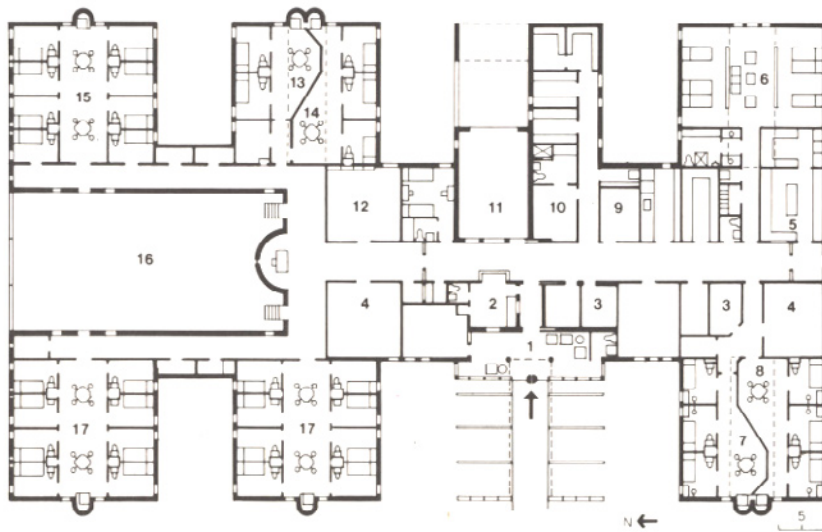


Figure 1.7 Plan showing bays and linear corridors (Source: Architectural Record 3-1983)

Structural and Material Aspects

The facility was built at \$113 per square foot. It has concrete roof vaults, round bays, and rhythmic bands of light to add a sculptural effect to the building. Photograph 1.7 depicts the roof vaults.

Symbolic Meaning of Architectural Elements

The architects wanted to project the image of discipline, order and rigor. A symbol of this can be seen in the arched trellis made of steel rebar at the main entrance. It is seen as an incomplete cell block that is a path between the outside and the inside. This path is meant to initiate thought on the nature of freedom. Photograph 1.6 shows the arched trellis from the inside looking outside.



Photograph 1.6 Arched trellis (Source: Architectural Record 3-1983)



Photograph 1.7 Roof Vaults (Source: Architectural Record 3-1983)

Design Issues

The design issues faced in this facility were ways to make it adaptable to future expansion as well as fitting it in with the residential context around it. The site for the new Minnesota Juvenile Correctional Facility is also near a residential area, on the outskirts of the town, so the Bozeman facility is a good project to look at when designing with context in mind. With rising crime rates, it is also a good idea to think about ways to design this facility with expansion in mind.

Cass County Jail, Fargo, North Dakota

Size: 142,588 square feet

Number of beds: 252

Site Relationships

The facility is located in an industrial area of Fargo. There is a lot of open space around the jail. The open space to the east of the facility is bookmarked for expansion.

Functional Relationships

The facility has 252 beds, with a current inmate population of just over 200. It houses four classifications of inmates: disciplinary, those who have caused problems in the jail; maximum, medium, and minimum. It also houses female and male inmates, all adults. The Cass County jail can only hold sentenced inmates for one year or less sentences.

Organizational Relationships

The facility is organized into five inmate housing pods, as well as separate areas for administrative, booking, master control, etc. Each inmate classification has its own housing pod, with different furnishings and security levels. It is organized so that when the facility needs to be expanded, it can be done easily, with the ability to have a total of 540 beds.

Social and Behavioral Science Issues

The facility is a direct observation jail, which means that the classification levels are based on inmate behavior. When an inmate is first brought to the jail, they are often placed into maximum security for 30 days. If they have behaved well, they are moved down to medium for 30 days and then down to minimum. The inmates are given a book when they first arrive that outlines the facility's expectations for them. Inmates whose behavior conforms to the rules of conduct have the most privileges, while those who cannot conform have the least. Each security classification has a daily schedule to follow.

Design Issues

A main design issue for this facility was the ability to expand it as needed. Since it is organized into housing pods, adding pods to the east was the option that was decided upon. The capacity now is 252 beds, with a total expandable population to 540 beds. When needed, the housing pods will be added in sets of two to keep the symmetry of the facility and to keep costs down. A half cent tax increase in 1999 made the jail possible. When the doors opened in 2002, the jail was paid in full.

Contra Costa County Detention Facility

Number of Beds: 383



Photograph 1.8 Exterior of Facility (Source: Architectural Record 3-1983)

Functional Relationships

The facility is a maximum security jail with 383 beds. It divides inmates into manageable classification groups which are distributed among nine housing modules. There is a relative lack of restrictions upon inmates' mobility. There is also a high degree of face-to-face interaction between inmates and staff.

Organizational Relationships

The housing modules are joined with outdoor recreation courts, which inmates have free access to during the day. Guards to each module stand behind open desks rather than behind security glass. Each housing module has its own recreation and dining spaces to keep the different classification groups separate. There is a separate set of corridors and stairs for use by inmates' families and counselors that allow them to walk unescorted to the visiting rooms adjacent to housing modules.

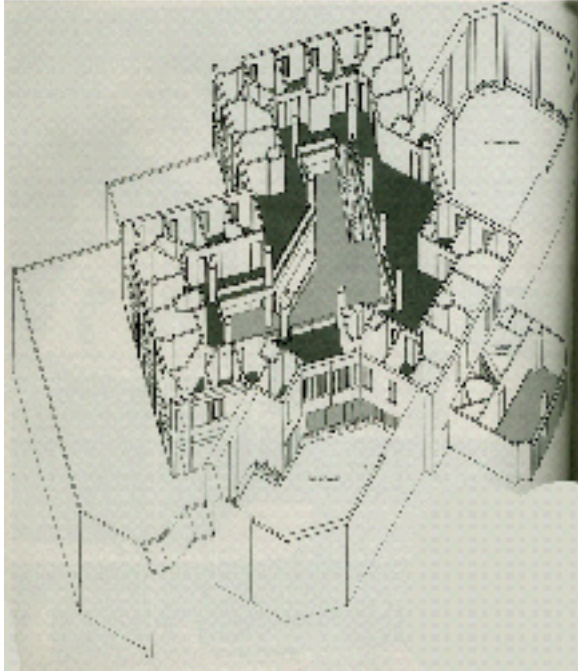
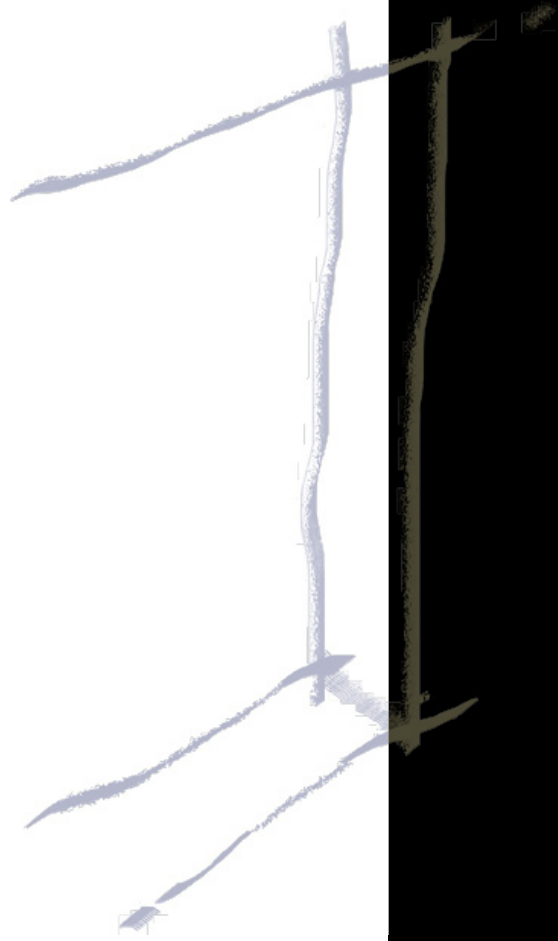


Figure 1.8 Standard inmate housing module (Source: Architectural Record 3-1983)

Social and Behavioral Science Issues

Correctional facility architects believe that creating more “domestic” environments than that of typical cell blocks, it helps to diffuse tension and enables supervisors to keep an eye on potential troublemakers. An essential part of this is that inmates believe they hold enough of a stake in the future to respond to positive incentives.

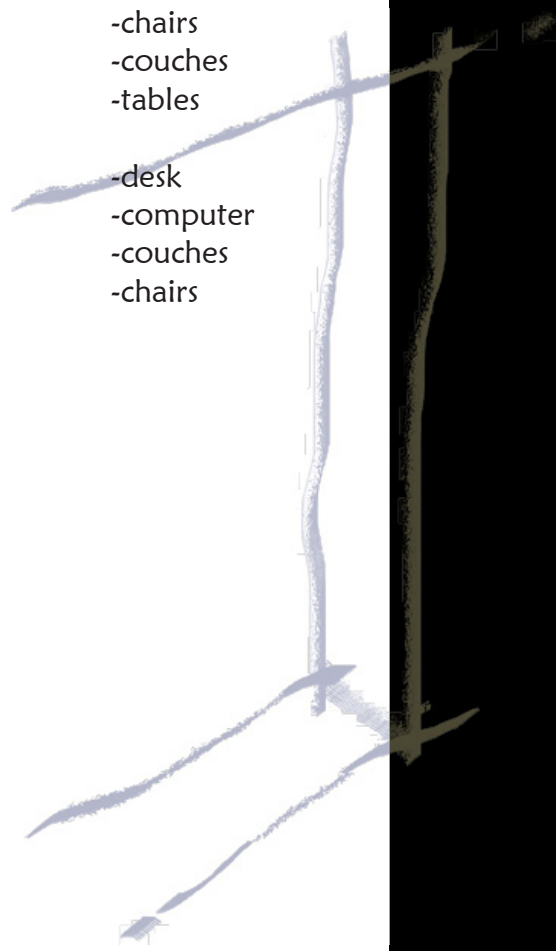
Programmatic Requirements



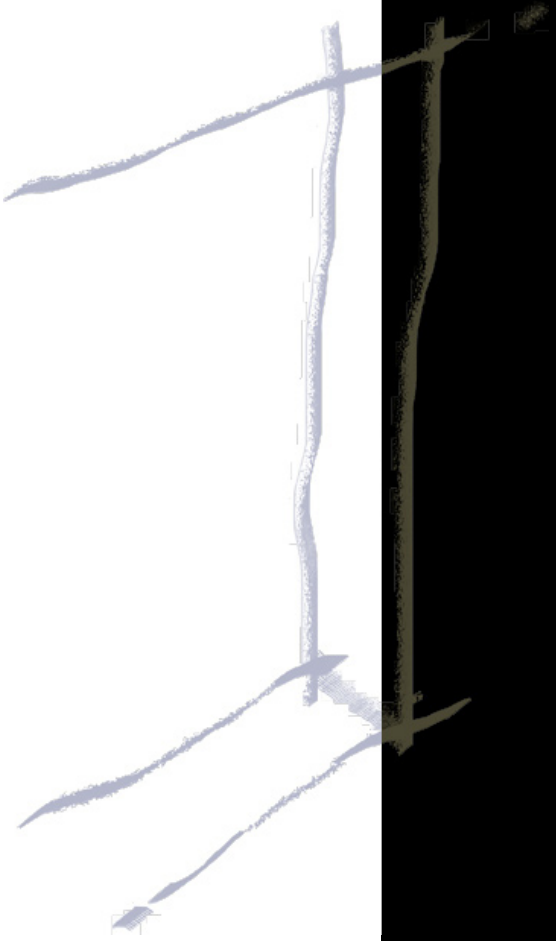
Space	Square Feet	Equipment needed/ furnishings
Cafeteria	1000 sq. ft.	-tables -chairs
Classrooms	400 sq. ft.	-desks -blackboard/ white board -projector -computer
Clinic Area	600 sq. ft.	-desk -computer -file cabinets -exam tables
Common Area	500 sq. ft.	-couches -chairs -tables -televisions
Computer Room	250 sq. ft.	-computers -tables
Gymnasium	2850 sq. ft.	-basketball court -free weights -treadmill
Individual Cells	100 sq. ft.	-bed -desk -toilet -sink
Kitchen	500 sq. ft.	-stove/oven -microwave -dishwasher -refridgerator/ freezer

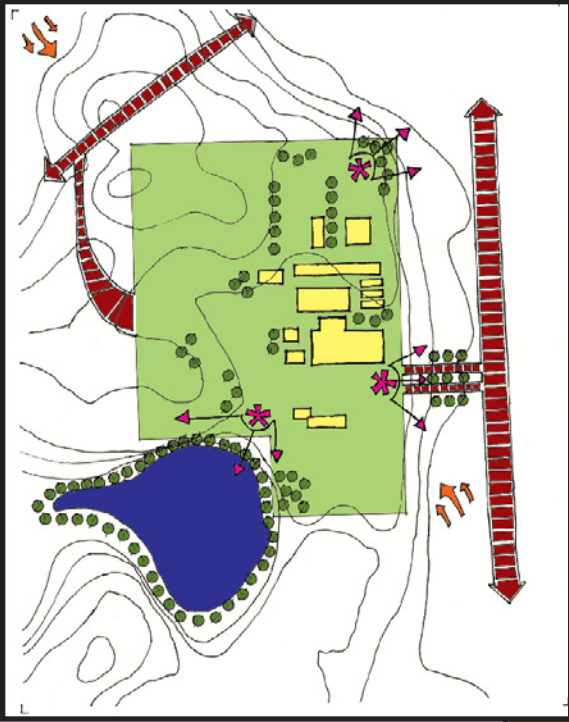
Laundry	1000 sq. ft.	-washer -dryer -sink
Library	1000 sq. ft.	-bookcases -tables
Mail Room	2000 sq. ft.	-tables
Maintenance	750 sq. ft.	-sink
Mechanical	10% of total square footage	
Outdoor Recreation		-basketball court -outdoor tables
Parking	60 spaces	
Restrooms	150 sq. ft.	-toilets -sinks
Security Screening Area	150 sq. ft.	-metal detectors -x-ray machines -computer
Shower Room	150 sq. ft.	-showers...
Staff Locker Room	400 sq. ft.	-lockers
Staff Lounge	400 sq. ft.	-chairs -tables -refridgerator -microwave
Staff Offices	250 sq. ft.	-desk -computer -bookcase

Storage	2000 sq. ft.	-shelves
Teaching staff offices (open office)	1000 sq. ft.	-desks -computers
Visiting Area	400 sq. ft.	-chairs -couches -tables
Waiting Area/ Reception	1000 sq. ft.	-desk -computer -couches -chairs



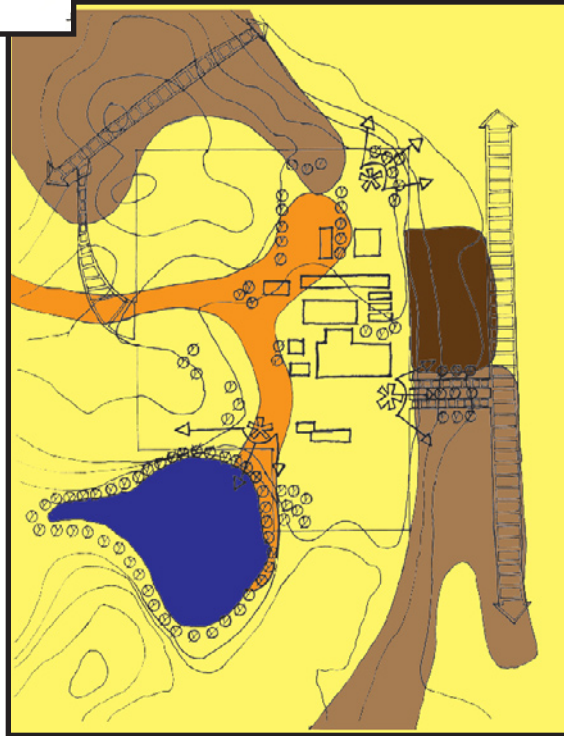
Process Documentation



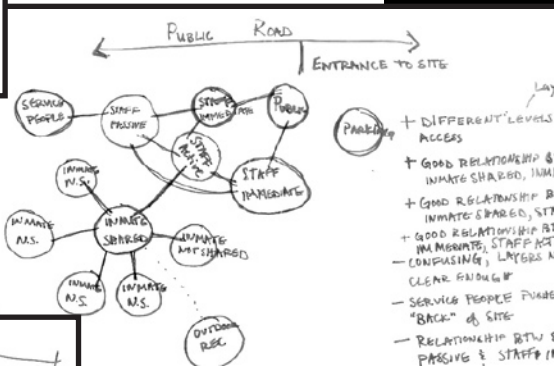
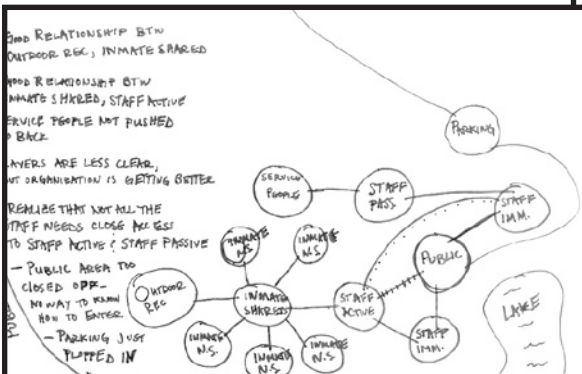
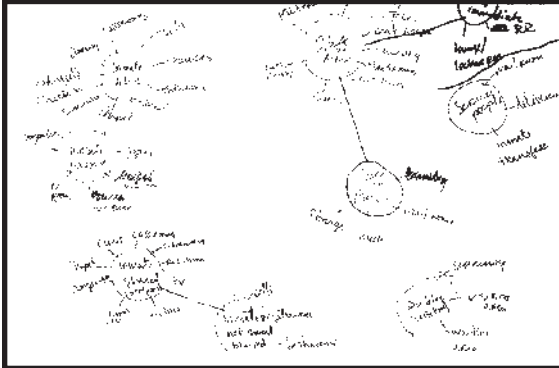


Analysis

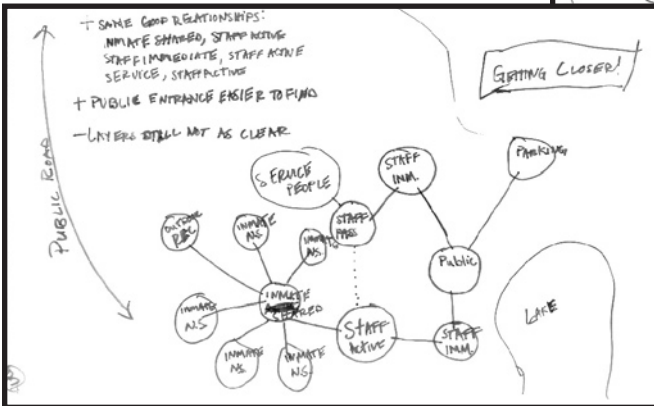
Site

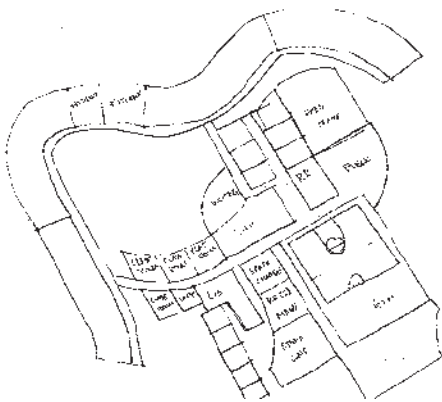
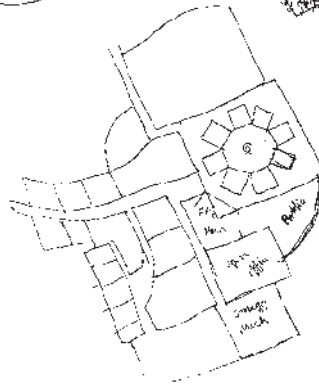
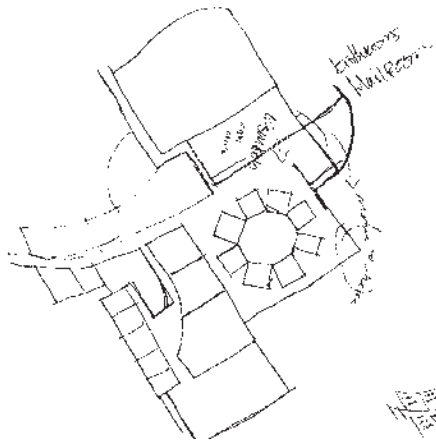
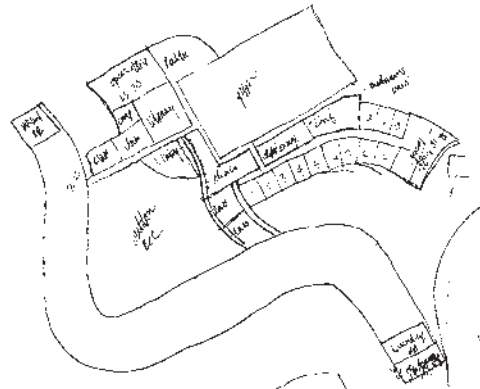


Space Planning



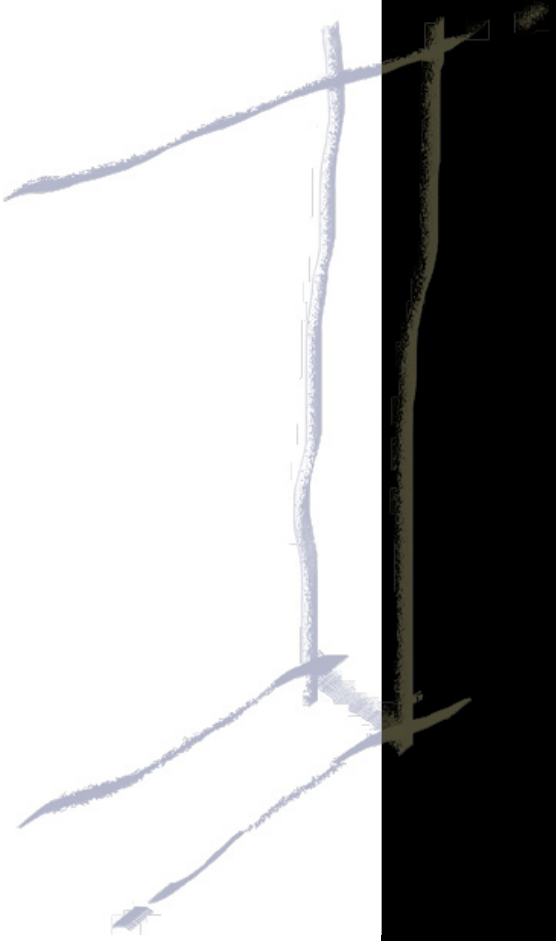
- + DIFFERENT LEVELS ACCESS
- + GOOD RELATIONSHIP BTW INMATE SHARED, INMA
- + GOOD RELATIONSHIP BTW INMATE SHARED, STAFF ACTIVE
- + GOOD RELATIONSHIP BTW INMATE SHARED, STAFF PASSIVE
- CONFUSING LAYERS NOT CLEAR ENOUGH
- SERVICE PEOPLE PUSHED "BACK" OF SITE
- RELATIONSHIP BTW SERVICE PEOPLE & STAFF INMA

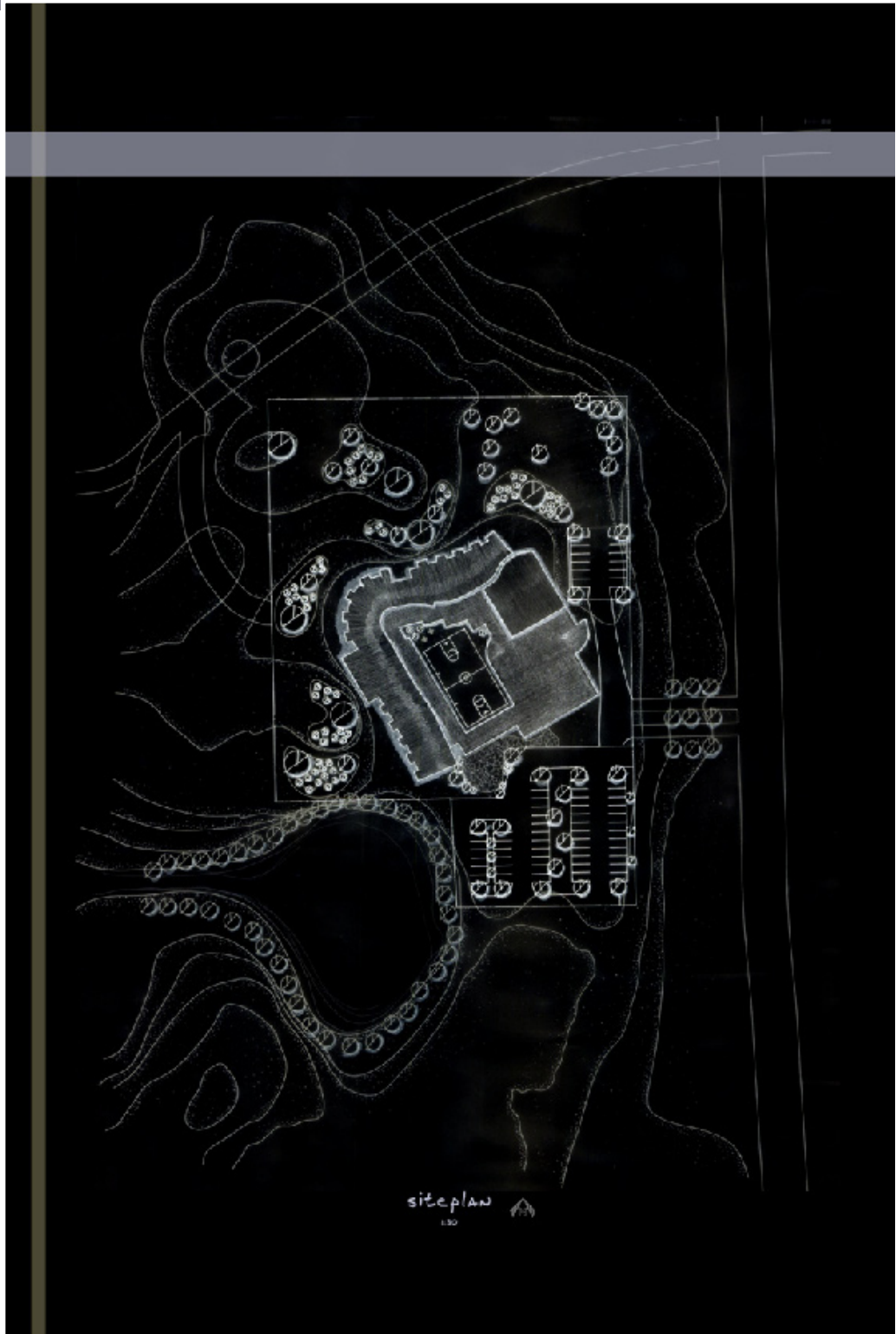


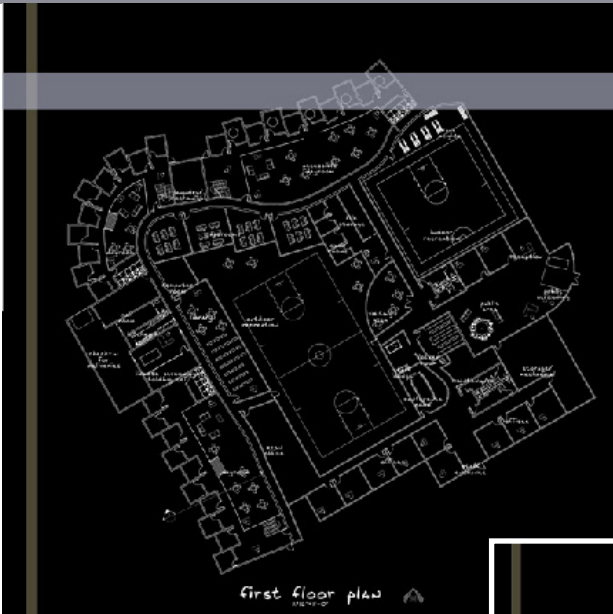


More Floorplans...

Project Solution



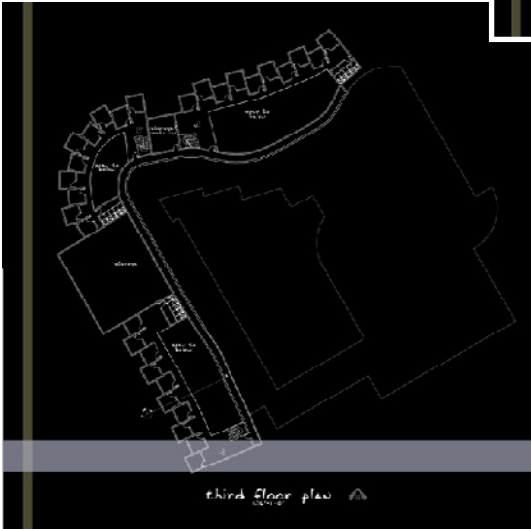




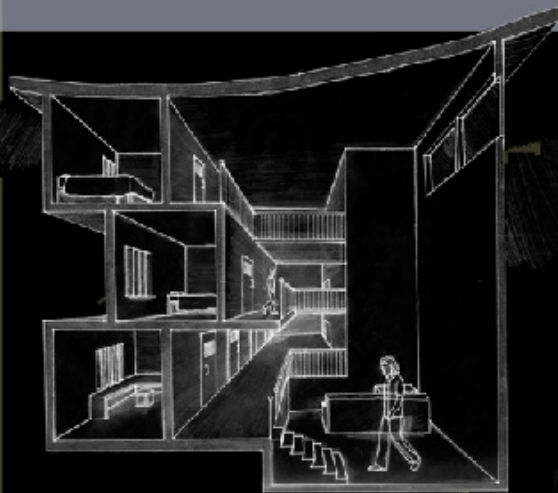
first floor plan



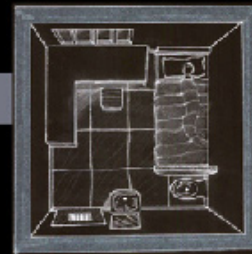
second floor plan



third floor plan



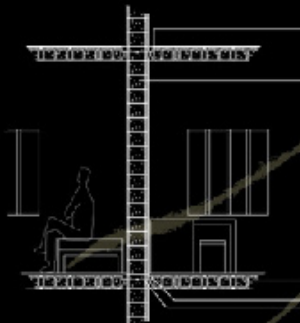
section into inmate areas



typical inmate cell
1/4" = 1'-0"



typical accessible inmate cell
1/4" = 1'-0"



cell wall detail
1/4" = 1'-0"



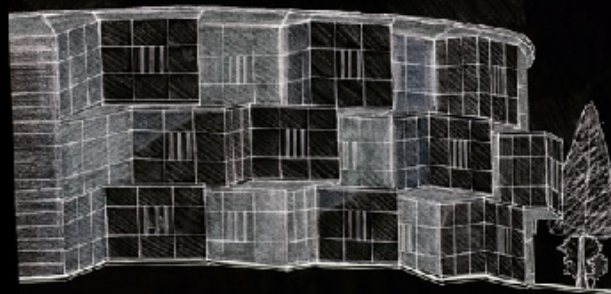
structure plan
1/4" = 1'-0"

The public entrance has a semi-linear form to distinguish it from the rest of the facility. This makes it easier for visitors to locate the appropriate entrance so that they can go through the screening area.



public entrance

The exterior of the house cells are architectural metal panels. This material is also used typical of commercial buildings, which adds to the uniqueness of this facility.



exterior view of cells

The exterior of the private cells are covered in metal panels. The rest of the facility is glass and aluminum panels. The outdoor recreation area is a space for the inmates to catch some fresh air and get out excess energy. There is also a space for visitors to visit with the inmates.



outdoor recreation area



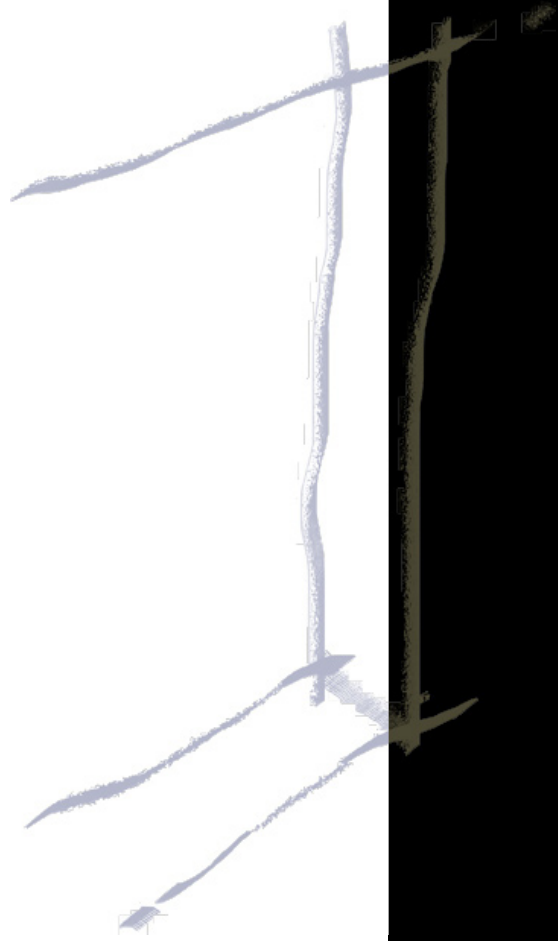
Final Site Model



Section Model Photos



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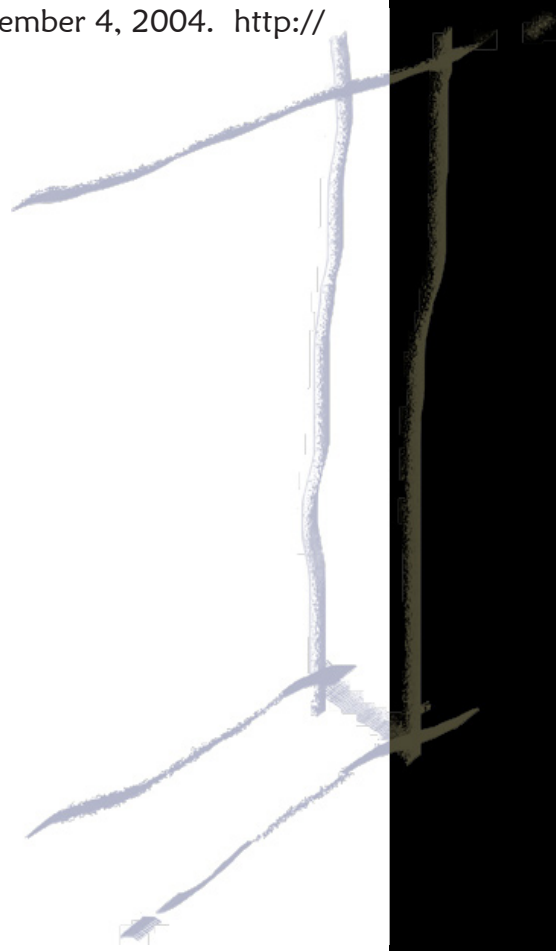
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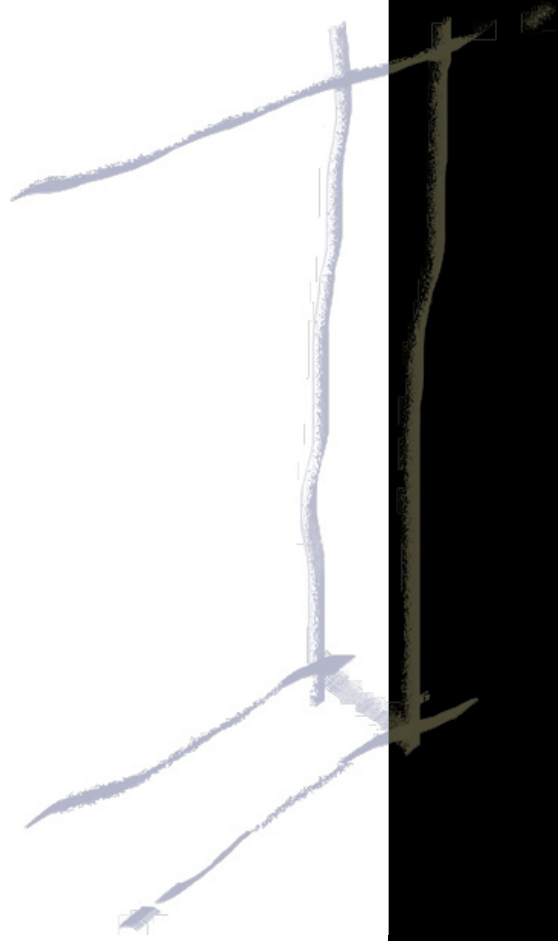
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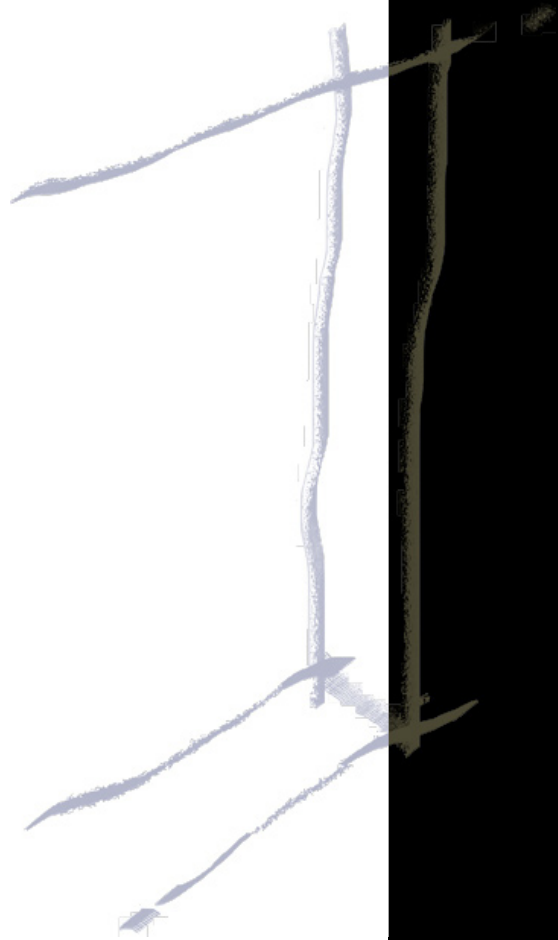
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Appendices



Appendix A



Psychology of Color

Red:

- symbolizes excitement and aggression
- can elevate blood pressure and respiratory rate
- causes quick decision making
- attention grabber
- emotionally intense
- red rooms make occupants anxious

Yellow:

- speeds up metabolism
- hurtful to the eye because light reflects off it
- like sunlight; want it to be there to make one feel good, but not in your eye
- softer tints are more pleasant to look at
- dingy yellow represents caution, decay, sickness
- spiritual color; symbol of deity in many religions

Blue:

- represents solitude, sadness, depression, wisdom, trust and loyalty
- one of the most popular colors
- least appetizing; blue colored food is often repulsive to humans
- relaxes nervous system
- has a sobering effect on the mind
- can cause people to be more contemplative (opposite to red)
- blue surroundings, if not too dark, can increase productivity

Green:

- signifies life, youth, renewal, hope and vigor
- easiest color on the eye and can improve vision
- calming color
- popular in hospitals because it relaxes patients
- symbolizes nature
- various shades have different meanings:
 - dark green: cool, masculine, conservative
 - emerald green: immortality
 - olive green: color of peace

Orange:

- associated with warmth, contentment
- looks strong and generous
- most associated with appetite
- has a declassifying, broad appeal

Black:

- controversial color
- on one hand, it is associated with demons, witches, and the devil;
- on the other hand, it is associated with sturdiness and reliability
- on another hand, it speaks with authority and power;
- on the other hand, it speaks with despair and mourning
- also implies submission; priests wear it to symbolize submission to God

White:

- stands for purity, chastity and innocence
- also represents cleanliness; doctors wear it to imply sterility
- reflects light and keeps cool
- creates a cool, refreshing feeling

Purple:

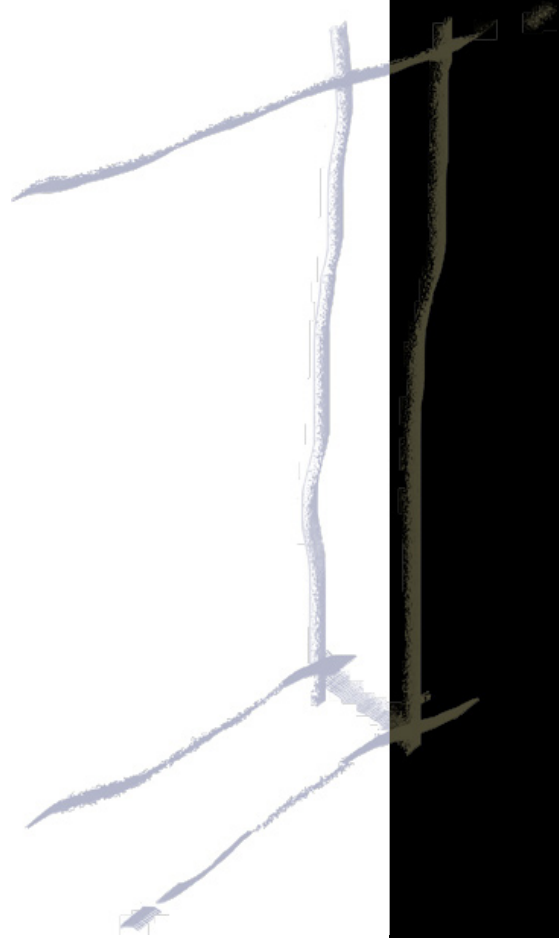
- color for royalties
- stands for luxury, wealth, and sophistication
- also a color of romance, passion and sensitivity
- rare in nature so it looks artificial to humans at times

Brown:

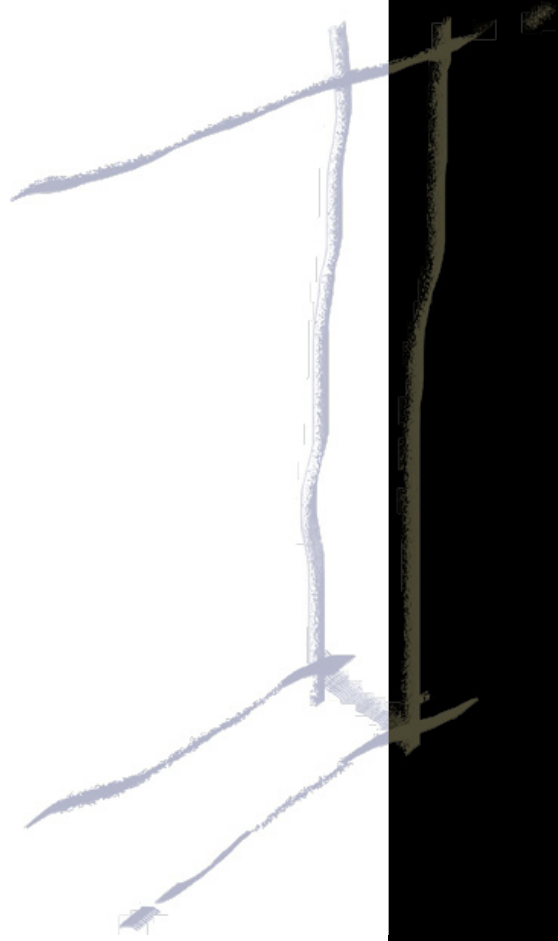
- color of earth and wood
- solid and reliable
- helps create a neutral, comfortable and open atmosphere
- communicates credibility, solidity, strength and maturity
- certain shades look worn and wistful
- likely to be on men's favorite color list
- light brown is associated with genuineness, while dark brown is associated with wood and leather

Pink:

- most romantic and tender color
- is tranquilizing
- makes people calm and soft-hearted



Appendix B



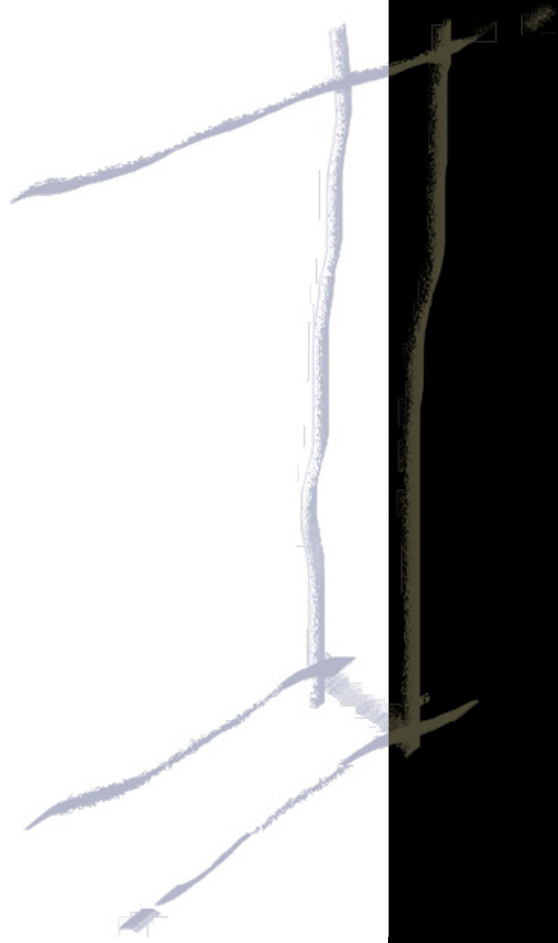
Statement of Intent

My thesis project is designing a prison. I have not yet narrowed down what type of prison-either a women's prison or a juvenile prison. At this point, I want to do a minimum or high security prison. With this security type, most inmates are only in prison for a while and then released back into the public. Because of this, the prison design will be more in need of spaces other than just prison cells. My design problem is to find a way to make this prison less dreary. A prison is not supposed to be an enjoyable place. However, when inmates are placed in dark, dreary facilities, it is not helpful to their rehabilitation. By putting inmates in these undesirable spaces, I feel it says to them that the public does not care what happens to them and that we do not care about how they are going to function after they are released.

At this point, this problem is going to be solved by introducing color and interesting geometric shapes into my design. I know from some of my other classes that certain shapes and colors convey certain meanings. For example, most people find a circle an attractive shape, where as a triangle is less attractive. Researching more of this will be helpful in incorporating it into my design.

I am doing this project as a challenge to myself. I do not have a personal interest in prisons, but I do find institutional architecture interesting. I do believe that this project will challenge me in a way I have not been challenged before. One challenge is that, usually, the spaces we design are to be enjoyable, and a prison is not one of these spaces. Another challenge is to design a large scale project. My main goal is to meet these challenges head-on and design a creative prison.

Appendix C



Proposal

a. Title

Minnesota Juvenile Correctional Facility, Fergus Falls, Minnesota

b. Building Type

The building type of this facility will be a prison, where inmates will be held no longer than ten years. This means that they will be released back into the public and will need to learn how to become a functioning adult in society. They will need to finish their high school education and learn skills to get jobs and be re-integrated into the public. This means that the building will need to be more than a prison—it will need to be a learning facility as well.

c. User/ Client Description

The major users for this building can be broken down into four categories. They are: the staff, visitors, service people and the inmates. The staff includes the warden, administrative assistants, maintenance staff, and guards, among others. The total numbers for the staff would be around 30-45, which would require 45 parking spots to allow enough room for shift changes. The visitors would be the people who come to see inmates at the prison, with family members being the most important subgroup. The number of visitors each day would probably range from five to ten, going all the way up to 75 on holidays. Public parking would require about 35 parking spots, which will be more than enough for the average day, yet allowing for more during the busy days. Any overflow parking can be directed to the staff parking. Two examples of service people would be delivery people and people who transport the inmates. They would not need any interior spaces, just exterior spaces that allow easy access to the service spaces. The inmate population would consist of 100 juvenile male inmates, and they would not need any parking spaces.

d. Major Project Elements

- Visiting area
- Waiting area
- Reception
- Staff offices
- Classrooms
- Technology/ computer room
- Individual cells
- Common area
- Restrooms
- Showers
- Storage
- Library
- Chapel
- Gymnasium
- Outdoor area
- Cafeteria, kitchen
- Clinic (includes mental health and dentist areas)
- Control center
- Parking

e. Site Information

Fergus Falls has a population of 13,700. It is located in Otter Tail County in northwest Minnesota. It is comprised of 47% males and 53% females. The median age is 39.8. Most of the population is Caucasian. The average household size is 2.94. The unemployment rate for the county is 5.8. Major industries in the county are the Trade, Transportation & Utilities industry, the Government, and Education & Health services (Fergus Falls). Fergus Falls was settled when transportation and industry were dependent on water. A land speculator named James B. Fergus hired Joseph Whitford to travel northwest to claim a town site along the Red River. He staked and claimed a site and on the way back, encountered Native Americans who told him of a big falls up the river. Whitford went there and then staked and claimed that land and named it after Fergus because he financed the expedition. This all happened in 1854. Fergus Falls remained unsettled till 1870

when a Minneapolis real estate agent bought land along the Otter Tail River. He saw the potential and convinced others to settle there too, with his clever business strategies. Once the railroad came through in 1879, Fergus Falls' success was set. Settlers and businesses had a guaranteed route into town and locally produced goods had a route out (Fergus Falls).

The specific location of my site is 1812 Pebble Lake Road. This is the site of the current county fairgrounds. There is a handful or so of existing structures on the land that fair events are held in, as well as winter storage. Existing vegetation is native trees and grasses. There are two major soil types, with different ratios on the site. They are Barnes soil and Langhei soil. The first ratio of Barnes to Langhei has moderate slopes of 6-12%. The second ratio of Langhei to Barnes has a severe slope of 12-20%. They have no flooding potential, as well as a low shrink-swell probability (Aldeen). The street boundaries are Minnesota State Highway 210 and Pebble Lake Road. Major transportation links are Highway 210, as well as Interstate 94. Major landmarks in Fergus Falls are the Technical College and the Regional Treatment Center. The site is relatively quiet except for traffic noise from the nearby highway. I picked this site because it is on the edge of town, so it is close to an urban area, yet it is far enough out that there would not be a lot of NIMBY (Not-In-My-Backyard) protests.

The climate in Fergus Falls is the usual Minnesota climate, with cold, dry winters and hot, humid summers. The wind in the winter is out of the northwest and in the summer is out of the southeast. The average temperature in January is 6 degrees Fahrenheit and the average temperature in July is 80 degrees Fahrenheit (City-Data).

f. Project Emphasis

- Institutional Design
- Psychology of Form & Color
- Create a calm, tranquil environment
- Passive heating, cooling, natural light

There are a few areas of emphasis in my project. One area of emphasis is incorporating an educational institution into the facility. Another

emphasis is the healing powers of form and color. The information gathered from this area would be used to create a calm/ calming environment. A final area of emphasis is green architecture; to be able to use the principles of green architecture to the fullest extent possible for a prison.

g. Plan for Proceeding

1. Research direction

- More about prison architecture
- Common juvenile crimes that cause to be in them in prison
- Psychology of form & color
- Rammed earth and other natural materials—is it possible to build a prison out of these or is it too risky?

A big area of research is prison architecture. Having never been in a prison or designed one, I need to know a lot more about the standards that are required to keep the inmates and the public safe. I'd also like to know more about common crimes and behaviors that cause juvenile to be in prison. Research also needs to be done into the psychology of form and color so that I can use these to create a neutral environment. I also need to research natural building materials to see if it is possible to build prisons out of these materials. More research needs to be done about green architecture as well, to make sure I am using these techniques properly.

2. Design Methodology

- Use of case studies to gain knowledge
- Visits
- Interviews

Through the use of case studies, knowledge will be gained about what is required to design a safe prison. Interviews and visits to existing correctional facilities will also be helpful in creating a somewhat ideal facility.

3. Documentation process

- Knowledge will be recorded and applied to project
- Drawings
- Understanding
- Sketchbook
- Binder

4. Schedule

Week 1	Oct 3-9 -Proposal, abstract, graphic page due -Return critic slips	
Week 2	Oct. 10-16	Work on Program Research
Week 3	Oct. 17-23-Critics announced	Work on Program Research
Week 4	Oct. 28-Last day of Arch 561 Oct. 31-Halloween!	Work on Program Research
Week 5	Nov. 11-Veteran's Day	Work on Program Research
Week 6	Final week of studio!	Work on Program Research
Week 7	Nov. 24-Draft Program due to Primary Critic	Revise Program Research
Week 8	Nov. 25-26-Thanksgiving Holiday	Revise Program Research
Week 9	Dec. 9-Final Program Due to Primary Critic Dec. 10-Last day of classes	Revise Program Research

Week 10	Dec. 13-17	Final Exams	Tour Prisons
Week 11	Dec. 19-25		Christmas!
Week 12	Dec. 26-Jan. 1		New Orleans!
Week 13	Jan. 2-8		Research
Week 14	Jan. 11-	Classes begin	Site Analysis
Week 15	Jan. 17-	Martin Luther King, Jr. Holiday	Schematic Designs
Week 16	Jan. 23-29		Schematic Designs Build site model
Week 17	Jan. 30-Feb. 5		Schematic Designs
Week 18	Feb. 6-12		Schematic Designs
Week 19	Feb. 13-19		Design Development
Week 20	Feb. 21-	President's Day Holiday	Design Development
Week 21	Feb. 27-Mar 5		Design Development
Week 22	Mar. 7-11		Design Development
Week 23	Mar. 14-18-	SPRING BREAK!!!	Florida!!
Week 24	Mar. 25-28-	Easter Holiday	Panic...?
Week 25	Mar. 27-	April 2	Build Model
Week 26	April 3-9		Presentation Drawings
Week 27	April 10-16		Presentation Drawings
Week 28	April 17-23		Presentation Drawings

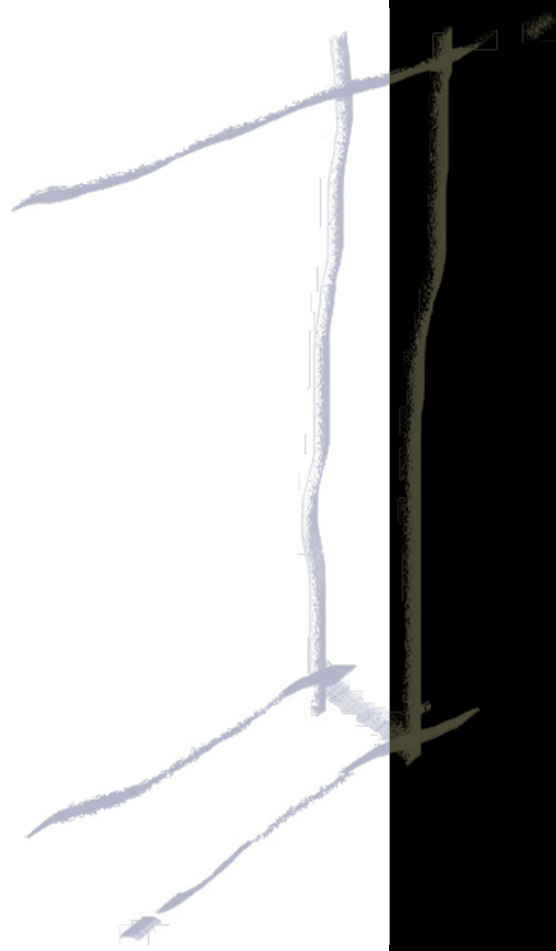
Week 29 April 25-Thesis projects due at 4:30-Ballroom sleeeep...zzz
 April 26-27-Annual thesis exhibit in Ballroom
 Week 30 April 28-May 5-FInal thesis reviews
 April 29-Draft thesis document due to
 primary critic
 Week 31 May 9-13-Final Exams
 May 12-Final thesis Document due at 4:30
 May 13-COMMENCEMENT!!! 4pm

5. Experience

	Fall	Spring
Second Year	Philippe D'Anjou -Lucy Exhibition Space -Retreat Home, Bozeman, MT -School of Architecture Copenhagen, Denmark	Milton Yergens -Systems Investigation -Live/ Work Apartment, Fargo, ND -New Salem Lutheran Church Accessibilty Addition, Hitterdal MN -St. Marguerite's Catholic Church Hitterdal, MN -Lachine Canal Walking Bridge Charette, Canada
Third Year	Carol Prafcke -Ronald McDonald House, Fargo ND -Heavy Timber Construction Investigation -Implement Dealership, Fargo, ND	Steve Martens -Fluid Motion Center, Fargo, ND -Great Plains Research Center
Fourth Year	Cindy Urness, Mark Barnhouse, Josh Walter -Urban Desgins, Downtown Fargo, ND	Don Faulkner -Medium Density Housing, Fargo, ND Frank Kratky -Bio-Climatic Skyscraper San Francisco, CA

Fifth Year Fall
Jay Waronker
-Portable Olympic Gallery
-United States Supreme Court,
Washington, D.C.

Spring
Vince Halten, Mohammed Elnahas
-Minnesota Juvenile Correctional
Facility, Fergus Falls, MN

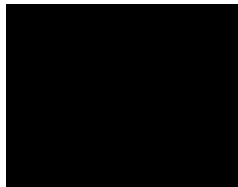




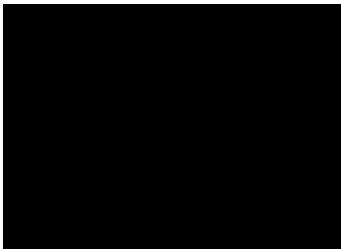
us fifth years in Bilbao



On the job-site



Mardi Gras fun!



Darla and I, showing off our "tattoos"



Our "sculpture"--yup, that was us!



me

Katie Merten

Thanks to everyone who helped me out and helped keep me sane--and thanks to everyone who was always willing to goof off with me too!!

