

An aerial photograph of a river with a teal rectangular overlay. The text is overlaid on the image.

R a p e and
A b u s e
C r i s i s
C e n t e r

g r a n d f o r k s , n o r t h d a k o t a

a n a r c h i t e c t u r a l t h e s i s
b y
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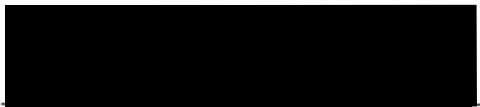
n o r t h d a k o t a s t a t e u n i v e r s i t y

RAPE AND ABUSE CRISIS CENTER

Grand Forks North Dakota

An Architecture Thesis
North Dakota State University

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DOMESTIC VIOLENCE IN NORTH DAKOTA

Domestic violence is an increasing problem in North Dakota. Last year there were 4,419 reported incidents of domestic violence, of those cases, 4,041 were reported to crisis intervention centers in North Dakota.

Ninety four percent of the victims of domestic violence were women and a majority of these cases involved children under the age of eighteen.

Seventy percent of the abuse cases in the state involved physical violence and of the twelve homicides in North Dakota last year, eight were domestic violence related.

It is obvious this is a problem that needs to be addressed and a facility like this would aid investigators in prosecuting abusers and help women get out of their situation, bringing an end to the violence.

This project has personal meaning for me because I have seen first hand how it affects the lives of the women and children involved and how desperate they are to have a sense of normalcy and independence again.

INTRODUCTION

“Crisis Center for Raped and Abused Women and Children”
Grand Forks, North Dakota

For some women and children, life is lived in constant fear of abuse. The reality is that many of them are unable to leave their unfortunate situations because they are dependent on the abuser in many ways, including financially and emotionally.

The focus of this thesis project is to provide physical and emotional healing through environment. The facility will provide a safe haven for victims of abuse and aid them in their transition to freedom from the abusers.

This facility will provide a one stop shop for victims of rape and domestic violence. They will be able to get all the care they need without having to travel to several locations for all the services needed. This facility will eliminate the need for victims to tell their story at each location and will allow all the agencies involved to work more closely and communicate more efficiently.

This facility will satisfy all the needs of the victims through different stages of healing by providing immediate emergency shelter, transitional living and any additional support services they may need after gaining their independence.

INTRODUCTION

“Crisis Center for Raped and Abused Women and Children”
Grand Forks, North Dakota

This facility will also provided a safe visitation area for children and parents who have had restrictions placed on their interaction.

The facility will also aid in educating people about early intervention and prevention and aid investigators in the process so that more domestic violence and rape cases can be prosecuted. This facility will allow advocates to do outreach programs to rural areas of North Dakota and Minnesota, so all can have access to these important programs and the benefits they bring for those in need.

PROJECT DESCRIPTION

BUILDING TYPOLOGY

The building typology is a crisis center for raped and abused women and children. The center will be a one stop shop where victims can get the protection, security, emotional and physical help they need, in one location.

The building will respond to the emotional and physical needs of area victims to facilitate healing and also respond to the site to provide a solution that is harmonious with the existing natural and built environment. The crisis center will provide a variety of services for those in need and serve as a pillar of support for victims of abuse.

THEORETICAL OR UNIFYING IDEA

Studies have shown the environment can have profound effects on the human emotions and psyche. Colors, sounds, textures and smells can impact the human emotion and facilitate healing and positive emotions. I will create a soothing and comforting environment that will feel more like home, something many facilities today cannot offer.

PROJECT DESCRIPTION

PROJECT JUSTIFICATION

Abuse is a greater problem than most would think, in North Dakota. The number of incidents of domestic violence increases each year and so does the demand for the services a crisis center would offer.

Women and children in these horrendous circumstances need to know that there is a place they can go where people are trained to handle their exact situation and give them the personal, confidential help and protection they need.

The goal is to get as many women and children, involved in these situations, to come forward and get help since twenty-five percent of domestic violence incidents are never reported.

PROJECT DESCRIPTION

PROJECT EMPHASIS

- To develop a secure but flowing plan and section that will bring together the many services that this type of facility will provide, security being the number one goal. For a project of this type to be successful, the women and children who rely on this facility as a safe haven, need to feel that their safety is the number one concern.
- Develop a design that encourages community and healing. Healing can be increased dramatically if a person knows that they are not alone and there is someone they can share their experience with, who will understand.
- Develop a design with private and retreat like spaces because everyone recovering from a trauma such as this heals differently and many time healing begins with peace and quite.

PROJECT DESCRIPTION

MAJOR PROJECT ELEMENTS

This facility will be divided into three main zones. The first being the support areas, which include spaces for administration and all of the services that are provided to the residents.

The second being the emergency shelter where victims are immediately housed until they have been assessed for need or until the threat is gone. This may be for a period of up to ninety days or longer if necessary. This portion of the facility would have a staff that worked round the clock to assist victims with their immediate needs.

The third area would be transitional living, where victims could live for up to two years, longer if necessary, while they gain the skills to be independent and get back on their feet.

During their stay in the transitional housing, the resident may attend school or use the services offered through the facility that teach such things as nutrition, basic cooking skills, parenting classes and also help them apply for jobs so they can become financially independent because many of the victims are low income.

PROJECT DESCRIPTION

MAJOR PROJECT ELEMENTS

SUPPORT SERVICES CENTER

| | |
|-----------------------------|-------------|
| Main Lobby/Intake Area | Storage |
| Support Offices | Circulation |
| Exam Rooms | Parking |
| Meeting Rooms | Restrooms |
| Day care | Maintenance |
| Employee Lounge | |
| Supervised Visitation Rooms | |
| Mechanical/Electrical | |

EMERGENCY SHELTER

| | |
|--|-------------|
| Kitchen/Dining Area | Maintenance |
| Parking | Circulation |
| Mechanical/Electrical | Storage |
| Residence Rooms | |
| Study Lounge/Computer Cluster (shared) | |

TRANSITIONAL LIVING CENTER

| | |
|--|------------------|
| Parking | Apartments |
| Circulation | Maintenance Room |
| Mechanical/Electrical | |
| Study Lounge/Computer Cluster (shared) | |

PROJECT DESCRIPTION

USER/CLIENT DEFINITION

The crisis center will be designed as a public yet private building for victims of the Red River valley and surrounding area.

The users of this facility will come from many different situations and backgrounds and the goal will be to accommodate the different ways people heal from a traumatic event.

A variety of professionals will be using this space on a daily basis. The facility will have to allow for easy coordination between the many departments involved. These professionals may include doctors, psychologists, administrators, teachers, and maintenance workers. Family members and friends of patients play an integral role in their healing and should also be part of the process from beginning to the end.

The goal of the design will be to provide safety for the victims and staff, and create an effective and enjoyable working environment for the staff.

A facility of this nature is run entirely by grants, private donations and volunteers, which makes this facility unique.

SITE ANALYSIS

The site for this project is located in Grand Forks, North Dakota near the banks of the Red River between North Dakota and Minnesota. I chose this site for the views and peacefulness that will be beneficial in creating an effective healing environment.



FIGURE 1. Map of North Dakota.

The site is located close to the border of North Dakota and Minnesota in what is known as the Red River Valley. Here the land is relatively flat with some contours near the river banks.

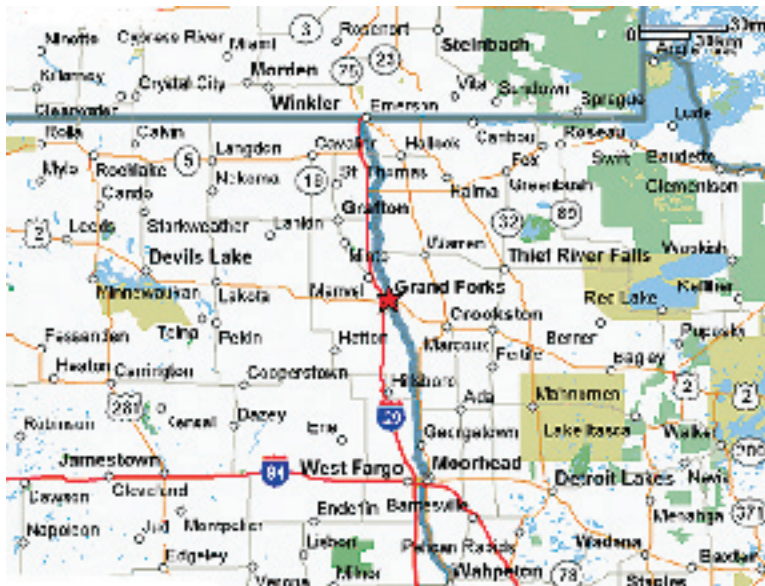


FIGURE 2. Map of surrounding cities.

The site is east of interstate 29, that runs through the western part of the city, and just north of Highway 2 in northern Grand Forks.

SITE ANALYSIS

The site is located in Grand Forks County where the population is approximately 64,000 and the majority of the population is older than eighteen and younger than sixty five. Of these residents, the majority are Caucasian.



FIGURE 3. Map of Grand Forks County

The site is located just off a commercial district that runs along Highway 2 and is shown in the grey. The site is in a quiet residential district where homes were primarily built in the late 1800s. Flood damage was high in 1997 and many homes have been rebuilt.

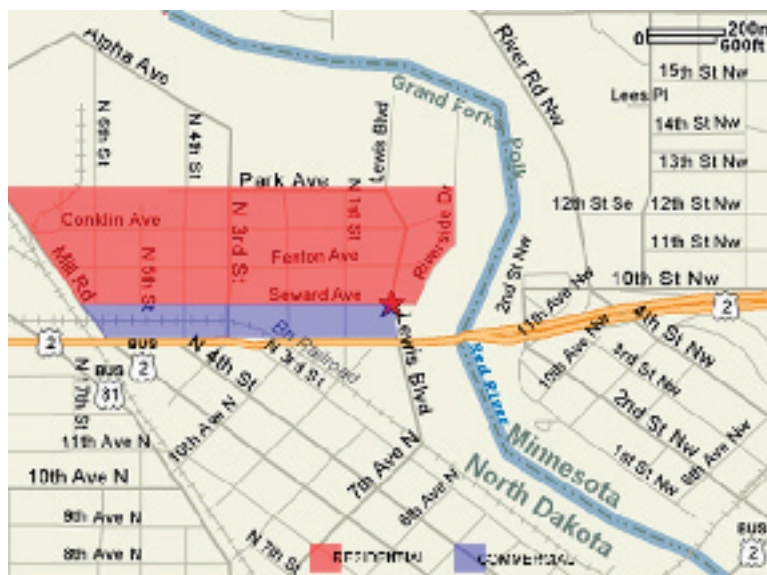
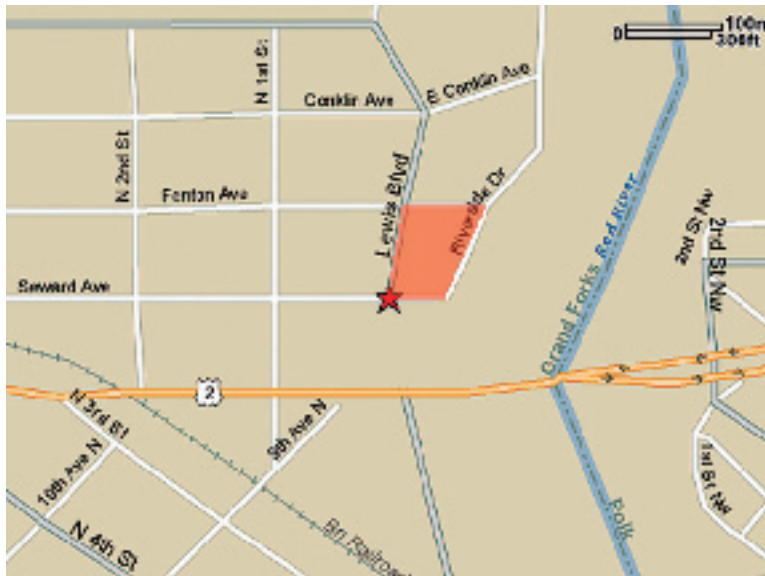


FIGURE 4. Map of commercial and residential property.

SITE ANALYSIS

The site and the area around the site has changed dramatically since the flood in 1997 and is ready for new development.



Map of the site context that shows the existing access to the site and its proximity to the highway.

FIGURE 5. Map of the site.



Aerial Photo taken before the flood. There are no longer existing homes on the site.

FIGURE 6. Aerial Photo of the site.

SITE ANALYSIS

SITE PICTURES



View from the site
to the south east

FIGURE 7. Site picture one.



View to the site
facing north

FIGURE 8. Site picture two.



View to the site
facing west

FIGURE 9. Site picture three.

SITE ANALYSIS

SITE PICTURES



View to the site facing south west

FIGURE 10. Site picture four.



View to the site facing south

FIGURE 11. Site picture five.



View to the site facing south east

FIGURE 12. Site picture six.

SITE ANALYSIS

The climate of this site has many extremes. In the winter it can be very cold and in the summer it can be very hot. The site can receive large amounts of snow but possibly very little at times. The site can also receive rain in the summer but usually this is not extreme. These are all important factors when designing for passive systems and choosing materials.

CLIMATIC DATA

| | Average High | Average Low | Average Mean |
|-----------|--------------|-------------|--------------|
| January | 14.9 | -4.3 | 5.3 |
| February | 22.4 | 3.7 | 13.1 |
| March | 34.3 | 17.1 | 25.7 |
| April | 53.6 | 31 | 42.3 |
| May | 70 | 43.5 | 56.8 |
| June | 77.6 | 52.8 | 65.2 |
| July | 81.9 | 56.8 | 69.4 |
| August | 81 | 54.5 | 67.8 |
| September | 69.7 | 44.3 | 57 |
| October | 55.6 | 33 | 44.3 |
| November | 34.1 | 17.4 | 25.8 |
| December | 20.1 | 2.5 | 11.3 |

FIGURE 13. Temperature data.

| | Average Wind Speed | Percent of Sun Shine | Normal Precipitation |
|-----------|--------------------|----------------------|----------------------|
| January | 10.9 | 50 | 0.68 |
| February | 11.5 | 56 | 0.58 |
| March | 11 | 58 | 0.89 |
| April | 11.1 | 60 | 1.23 |
| May | 11.2 | 61 | 2.21 |
| June | 9.8 | 62 | 3.03 |
| July | 8.3 | 71 | 3.06 |
| August | 8.9 | 69 | 2.72 |
| September | 9.4 | 60 | 1.96 |
| October | 10.2 | 54 | 1.7 |
| November | 10.3 | 40 | 0.99 |
| December | 10.7 | 43 | 0.55 |

FIGURE 14. Climate data.

SITE ANALYSIS

WIND ROSES

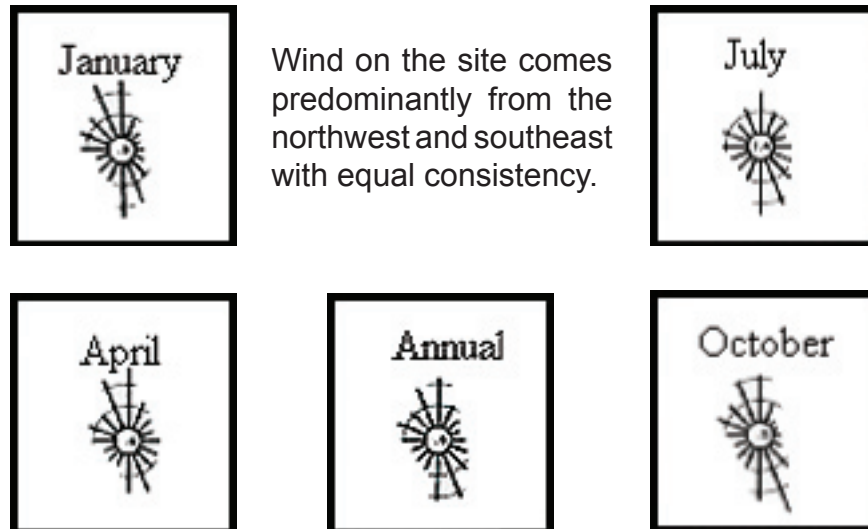


FIGURE 15. Sun angle diagrams.

SUN ANGLES

| | |
|--------------------------|------------|
| Winter- December at Noon | 19 Degrees |
| Summer-June at Noon | 65 Degrees |

The angle of the sun in the winter will provide for direct sun light into spaces to allowing for maximum passive heating possibilities. The larger sun angle in the summer and the use of shading devices is an effective tool for keeping a space cool through the hot summer months.

SITE ANALYSIS

SITE AREA/SIZE

The site is approximately 40,878 sq. ft. It is composed of five joining residential blocks. This will provide ample space for this facility and plenty of green space for landscaping and developing the exterior retreat and play areas. Additionally it will provide space for off-street parking. The site is roughly 140' in the east west direction and 300' in the north south direction. The dynamic site is a distorted rectangle with curving east and west perimeters.



FIGURE 16. Site perimeter.

SOILS

The site is located entirely on Zell-LaDelle silt loams. This a type of soil found along glacial lake plains and is considered well drained soil. It is usually found on the crest and shoulders of slopes, near the edge of a river bank. This type of soil is considered suitable for building. The site is also suitable for the most commonly grown trees and shrubs. The shrink-swell potential of this soil poses a problem on building sites but it can be managed by installing surface and foundation drains and by reinforcing basement and foundation walls.

SITE ANALYSIS

CONTOURS

The site itself is flat on top but off the east side of the site, the landscape drops off significantly as it approaches the river, an elevation change of about thirty-one feet. The site also slopes very slightly to the south which should provide enough drainage for water run off.



FIGURE 17. Contour Diagram.

VEGETATION

There is very little vegetation on the site but what does exist is old growth trees and shrubs that line the site on almost all sides. The vegetation gets more dense as the site drops off to the river. The vegetation along the west side of the site was planted many years ago to frame the street and is quite tall. There is very little vegetation to the south to provide shade from the sun in the summer and very little vegetation to the north to protect the structure from the strong north winds.

SITE ANALYSIS

PEDESTRIAN AND VEHICULAR CIRCULATION

Currently there are only two ways to access the site by vehicle and that is to the south of the site via Seward Avenue and to the north via Fenton Avenue. This makes for very little through traffic and very little traffic on the street in front of the site. There is a sidewalk that runs the length of the west side of the site and there is a small dead-end street on the north side of the site that runs east and west. This could be used by pedestrians to access the site but currently there is no way to access the site from the steep river bank on the east side and that is one of the reasons I chose this site, for increased privacy and limited access for security.



FIGURE 18. Vehicular access.

MAN-MADE FEATURES

There is currently only one man-made feature on the site and that is a small lift station on the very north east corner of the site.

SITE ANALYSIS

VIEWS

There are many views from the site to the east and those can be seen in these site photographs. With the help of more vegetation in the design additional views can be framed to maximize the natural beauty of the surrounding landscape. Small scale residential homes will be seen to the west but none of these man-made features will block the main view.



FIGURE 19. Views.

SOUNDS OF THE SITE

There are very few noises on the site. The surrounding residential district is very quiet. The highway to the south of the site would be the largest source of noise but this is very minimal because the speed of this street is low and the highway is over a block to the south of the site. Though the site is close to the river there are no sounds of running water because of the slow flow in this section.

CASE STUDY ONE

Squirrels Nest Child Care Center - Scarborough, Ontario



FIGURE 20. Case study 1.1.



FIGURE 21. Case study 1.2.



FIGURE 22. Case study 1.3.

This case study illustrates a modernist approach and is a design for a cold weather climate.

This facility was designed for the growing needs of childcare since the dynamic of the family is changing and many women now work outside the home.

This day care in Canada was designed with a variety of materials that reflect the surrounding environment. Glazing is used to frame views of the landscape from the interior of the building. A large window that faces the enclosed playground allows caretakers to see all of the children using the playground.

Cantilevered roofs provide shading for the large glazed walls.

CASE STUDY ONE



FIGURE 23. Case study 1.4.



FIGURE 24. Case study 1.5.



FIGURE 25. Case study 1.6.



FIGURE 26. Case study 1.7.

The roofs are long and low, reflecting the relatively flat contours of the site. The materials used in the construction of this facility are durable and will withstand use by children.

The facility is divided into areas that serve different age groups of children yet they all share the same service and circulation spaces. The division of these spaces is evident in the form and the height of the roof over each of these sections.

This case study is a good example of how a building form can reflect the functions that take place within it, while also being responsive to the site and the environment.

CASE STUDY ONE

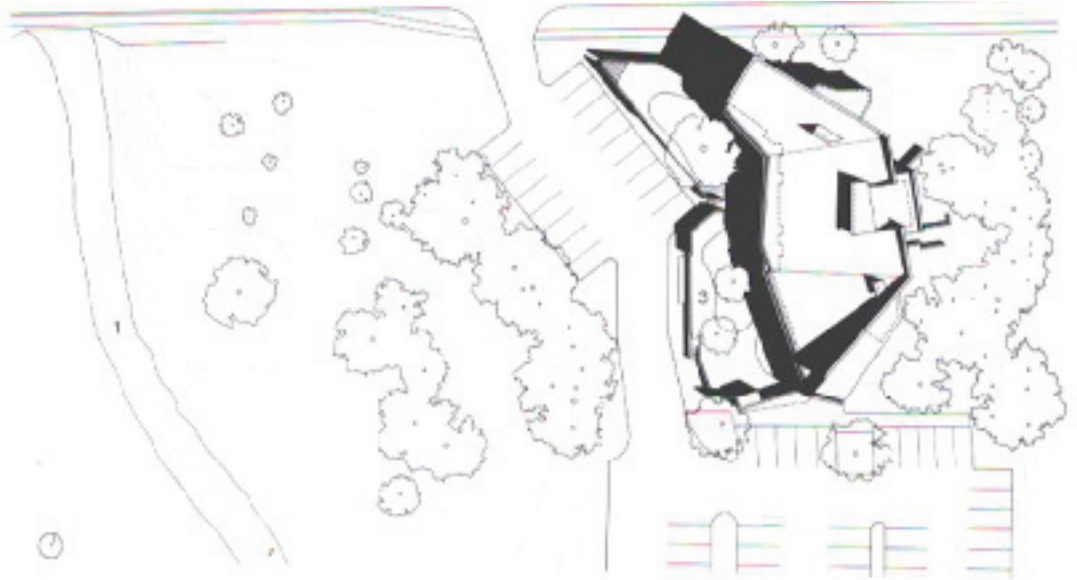


FIGURE 27. Case study 1.8.

Site plan



FIGURE 28. Case study 1.9.

Ground floor plan



FIGURE 29

Site section

CASE STUDY TWO

Trent University Campus Child Care Center
- Peterborough, Ontario



FIGURE 30. Case study 2.1.



FIGURE 31. Case study 2.2.

The second case study is Trent University Campus Child Care Center in Ontario, Canada. This case study again is located in a cold weather climate, similar to the thesis project.

This facility's architecture focuses on the nearby river and is inspired by the rock outcroppings on the site in the Otonabee River valley.

CASE STUDY TWO



FIGURE 32. Cast study 2.3



FIGURE 33. Case study 2.4

This day care is also divided into sections that serve different aged children, but they all come together in a main space that is demarcated by a lofty, kite-like roof. This space overlooks a garden that links the two exterior playgrounds. The building is constructed with a similar palette of materials as the first case study, including stucco, stone, wood and steel. The low roofs reflect the low rolling contours of the site and the footprint of the building is built into the earth to make its low lying appearance even more dramatic.

This case study was chosen because I believe that it has achieved similar goals to those I would like to achieve with my design. This project pays attention to the details of the interior and the exterior and how they relate to each other.

CASE STUDY TWO

The plan of the building is well laid out, with virtually every space having an exterior view and access to natural light.

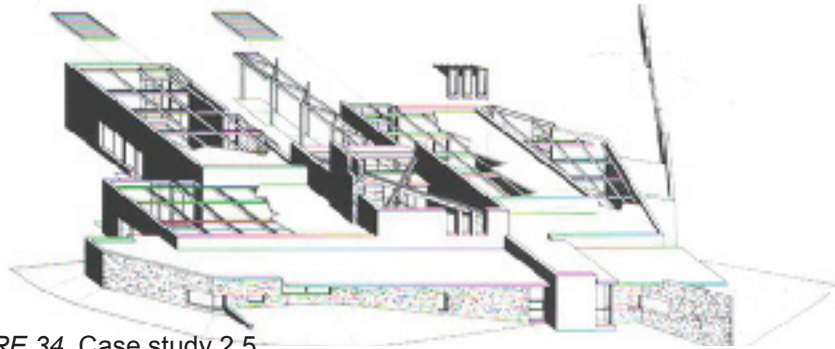
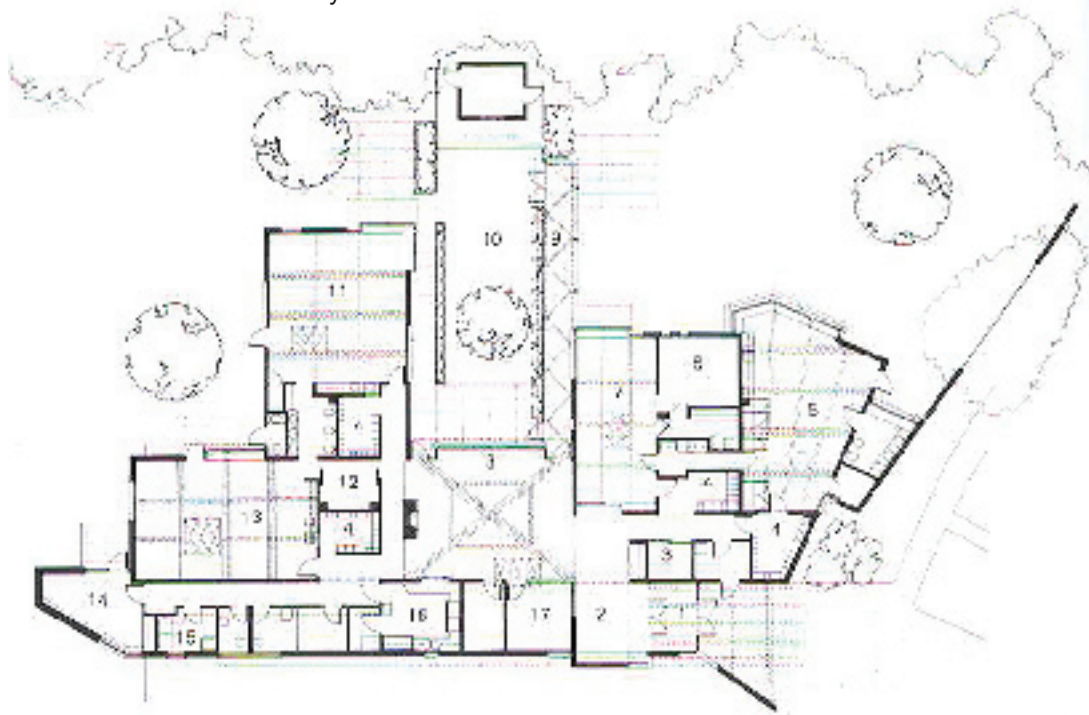


FIGURE 34. Case study 2.5.



Ground floor plan

- | | |
|----------------------|----------------------------|
| 1. entry | 10. garden |
| 2. reception | 11. preschool/kindergarten |
| 3. pram storage | 12. toy storage |
| 4. caddy | 13. preschool/undergarten |
| 5. toddlers | 14. staff room |
| 6. sleep room | 15. laundry |
| 7. infants | 16. kitchen |
| 8. gross motor room | 17. office |
| 9. covered pram walk | |

FIGURE 35. Case study 2.6.

CASE STUDY THREE

The Center for Spine, Sports and Occupational Rehabilitation

-Rehabilitation Institute of Chicago

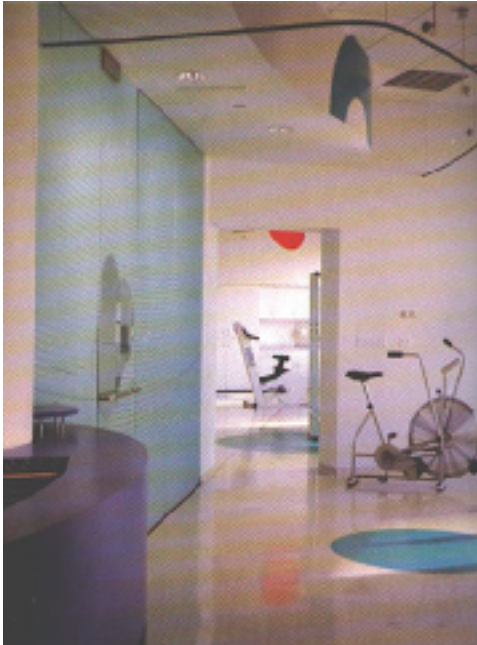


FIGURE 36. Case study 3.1.



FIGURE 37. Case study 3.2.



FIGURE 38. Case study 3.3.

The third case study is the Center for Spine, Sports and Occupational Rehabilitation at the Rehabilitation Institute of Chicago. The goal of their design was to make the facility exhilarating and make people feel positive and hopefully increase patient's motivation to recover.

The facility has introduced pop and classical music in the stair wells. They have used bright primary colors in the interiors because the designers of the facility believe that color, art, lighting and music enhance a persons sense of well being.

CASE STUDY THREE

They used saturated blues, greens, and red as interior colors, which provides a joyful atmosphere in the reception area. All of the exam rooms are decorated with completely different styles.

Since the goal of the facility was to get peoples bodies back in condition and increase mobility, they wanted the facility to convey the idea of fluidity and motion.



FIGURE 39. Case study 3.4.

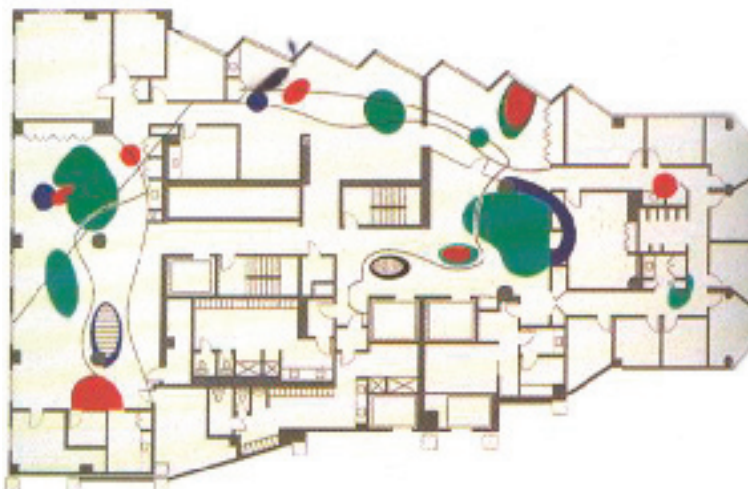


FIGURE 40. Case study 3.5.

CASE STUDY FOUR

Mid-Columbia Medical Center - The Dalles, Oregon



FIGURE 41. Case study 4.1.

The fourth case study I chose was Mid-Columbia Medical Center in Oregon. This facility was the first to use the Planetree plan, a group who's mission is to humanize and demystify healthcare.

In this plan family and friends actively support patients. They also work to transform the physical environment using color and wood, soft fabrics and large amounts of natural light making it appear less institutional. They have incorporated sitting rooms, kitchens and libraries for the patients and their families, all making it feel a little more like home.

The developers of the Planetree understand the idea that good design has a value in healing, which is the underlying premise of this thesis project. From this concept that they have developed, more time has been put into studies on how environment can affect emotion and in these cases, healing.

CASE STUDY FIVE

Bronson Methodist Hospital - Kalamazoo, Michigan

This hospital in Michigan is a good example of how designers are taking a more active role in making the designs of these spaces reflect the needs of the patients and their desires to get better. In traditional hospital design, there was a need to make the space as sterile as possible, which was thought to increase healing but studies are showing that these spaces are more effective if they resemble a home rather an

institution and promote family interaction. This hospital has a healing garden in the main atrium space as well as a nicely designed exterior space for families to spend time and simply get some fresh air. This facility has the ability to lighten a spirit with generous daylight, access to nature and playful forms that contradict traditional hospital design.



FIGURE 42. Case study 5.1.



FIGURE 43. Case study 5.2.

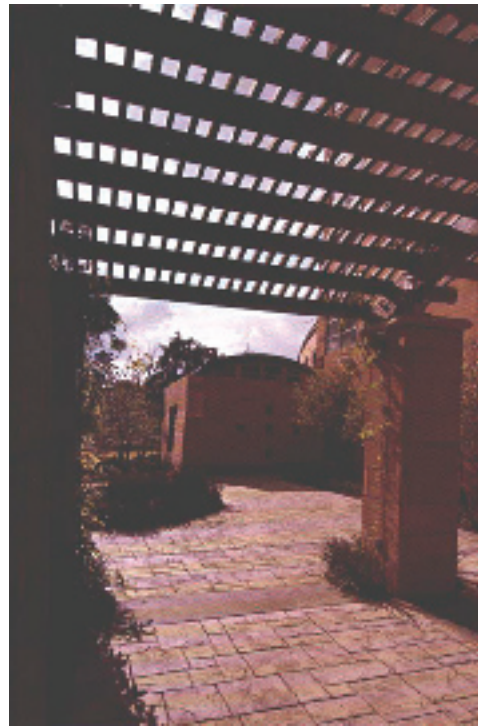


FIGURE 44. Case study 5.3.

CASE STUDY SIX

Dixie Regional Medical Center - St. George, Utah



FIGURE 45. Case study 6.1. FIGURE 46. Case study 6.2.

This hospital design in Utah shows how the use of materials can have a great impact on how a space feels and the goal of achieving a more home like feel inside this hospital has been achieved. The use of stone and wood combined with a large amount of natural light, makes these spaces very inviting and they have very little resemblance to a traditional hospital design. Also the use of rugs, pillows and niches give a more comfortable and intimate feeling. The use of nontraditional lighting in these spaces makes for a more natural appearance and eliminates that sterile feeling of fluorescent lighting.

These spaces are nicer for the patients but also for those who work there. This is a very relaxed environment that could reduce the levels of stress workers may have while working in this type of field.



FIGURE 47. Case study 6.3.

FIGURE 48. Case study 6.4.

CASE STUDY SEVEN

Maternity and Pediatrics Hospital - Madrid, Spain

The goal of the design for this maternity hospital in Madrid was to provide the families with convenience and create a calm, tranquil and restful atmosphere through the use of natural light. The architect, Rafael Moneo, achieved this through the use of eight courtyards that punch

through the building, which are all glazed to provide maximum indirect light into even the deepest interior spaces. The patient rooms line the walls of these interior courtyards. The interiors of the rooms include bright colors, custom designed furniture and wood detailing. All these features develop a more home like experience rather than the sterile feeling of traditional hospital design.



FIGURE 49. Case study 7.1.



FIGURE 50. Case study 7.2.

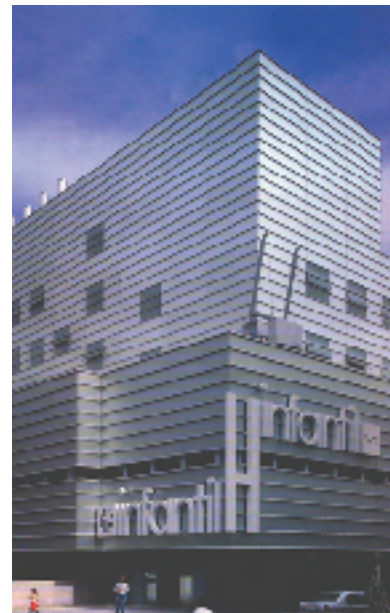


FIGURE 51. Case study 7.3.

CASE STUDY SEVEN

Materials in the corridor include marble, which is a very durable material in a location that receives large amounts of traffic.



FIGURE 52. Case study 7.4.



FIGURE 53. Case study 7.5.

CASE STUDY SEVEN

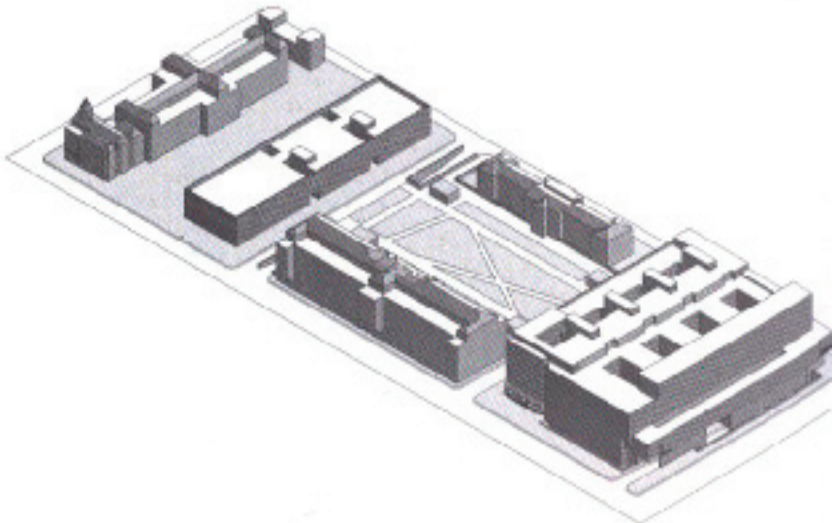


FIGURE 54. Case study 7.6.

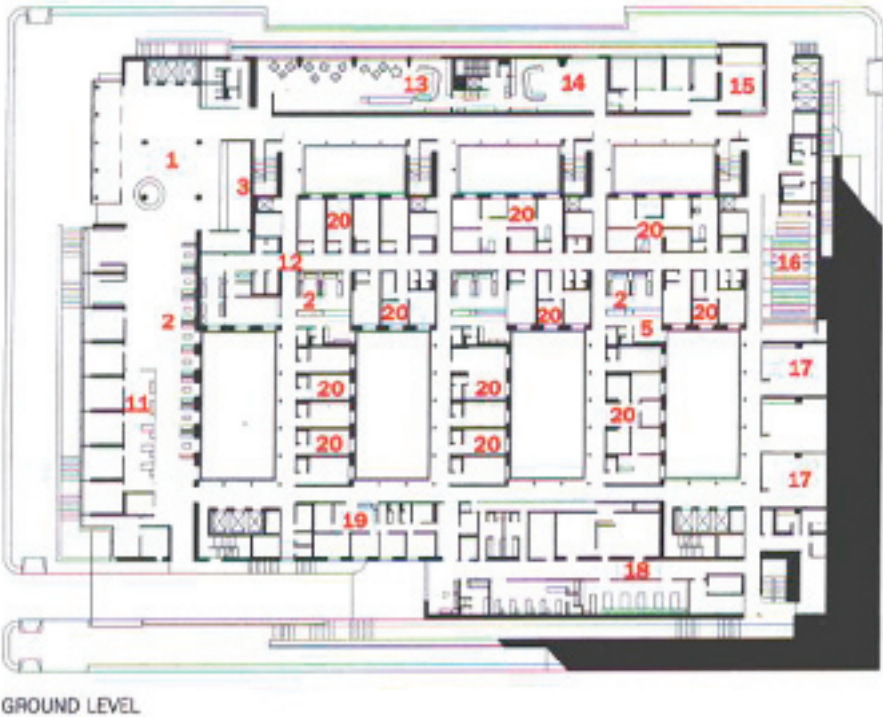


FIGURE 55. Case study 7.7.

CASE STUDY EIGHT

Provincial Hospital Graz-West - Graz, Austria



FIGURE 56. Case study 8.1.



FIGURE 57. Case study 8.2.

This hospital in Austria was designed to show that good design can be successful even on a cost-effective budget without sacrificing quality.

When visitors enter, they are greeted by a four story lobby space, which gives a feeling of spaciousness, airyness and plenty of light. Partitions and elevators are made of glass to make sure that the view out to nature is not obstructed. All patient rooms have a view and are equipped with many of the amenities of home including refrigerators and designer hardware in their private bath.



FIGURE 58. Case study 8.3.

CASE STUDY EIGHT



FIGURE 59. Case study 8.4.



FIGURE 60. Case study 8.5.



FIGURE 61. Case study 8.6.



FIGURE 62. Case study 8.7.

Those patients with supplementary insurance have even more luxurious rooms that include balconies to the outside as shown in figure 57 on the previous page. However, this space is not just designed for the patient's comfort but also the families comfort as well. The visitor areas are decorated with designer furniture and views to the countryside.

This project was able to accomplish all this and did not go over budget.

CASE STUDY EIGHT

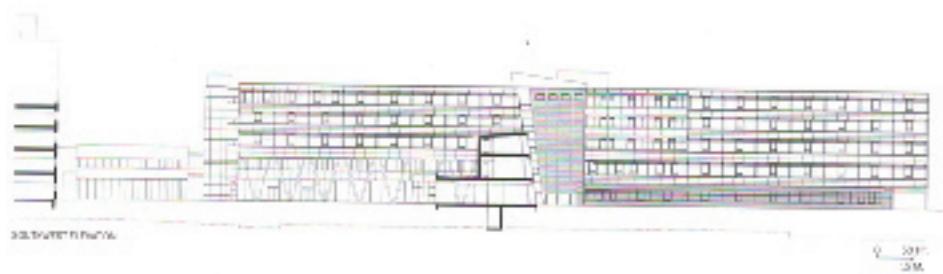


FIGURE 63. Case study 8.8.



FIGURE 64. Case study 8.9.

CASE STUDY NINE

Naval Hospital - Bremerton, Washington

The design goals for this naval hospital, in Washington, were many, including providing patients with a pleasant place to heal, to provide the workers with an enjoyable place to work, develop a circulation plan that was more functional, integrate the building into the surrounding context and express the naval theme, all while staying on budget.



FIGURE 65. Case study 9.1

CASE STUDY NINE

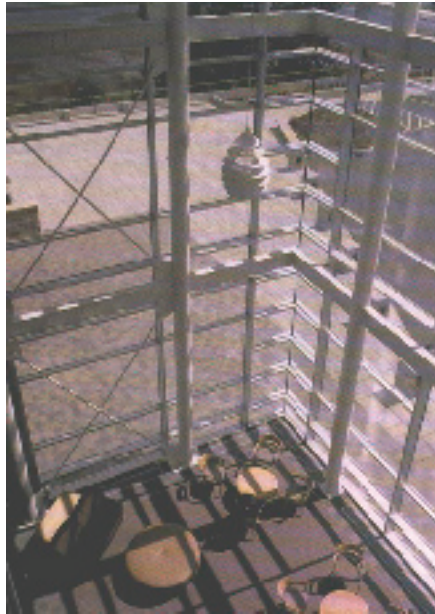


FIGURE 66. Case study 9.2.



FIGURE 67. Cast study 9.3.

The addition to this medical facility was built parallel to the shore line to provide maximum views of the landscape. When one enters this facility they enter into a large three story glass atrium, where suspended bridges connect the upper levels across the atrium space. The facility was designed with an aircraft carrier in mind and the suspended bridges would be similar to the catwalks found on those ships. The large expanse of glass not only provides views to the ocean, but large amounts of natural light, all which make the experience of being in this space more enjoyable.



FIGURE 68. Case study 9.4.

CASE STUDY NINE

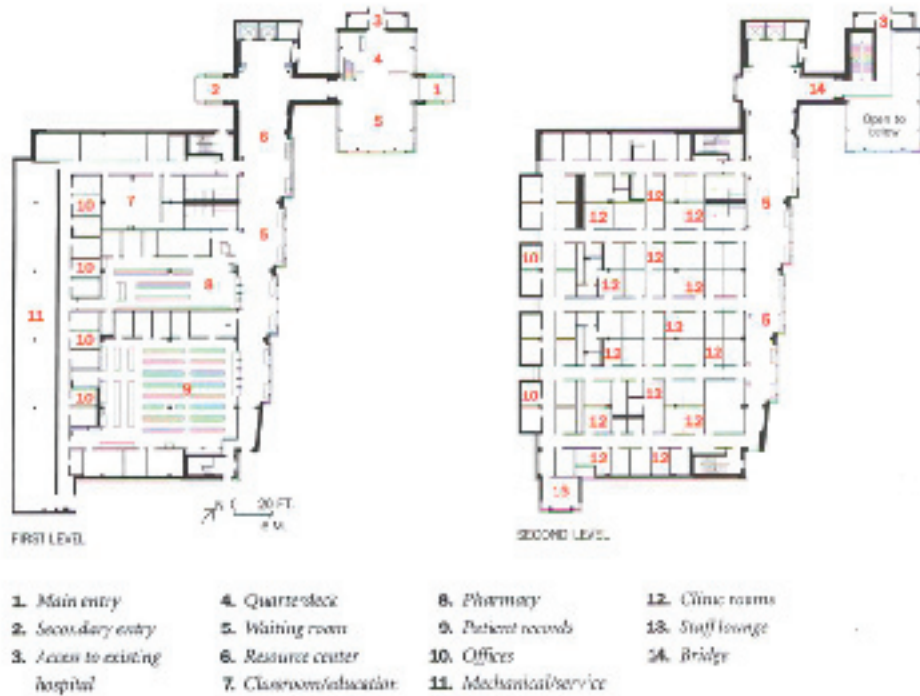


FIGURE 69. Case study 9.5.



FIGURE 70. Case study 9.6.

PROGRAMMATIC REQUIREMENTS

The rape and abuse crisis center will be divided into three zones, each having very different functions but all working together to help the victims from the beginning of the process to the end. Their locations are in close proximity to each other, allowing for easy communication between the many departments. The administration and support services will be housed in one zone. This would include offices for professionals such as doctors and nurses, psychologists, social workers, advocates, attorneys and security. This area would be open during business hours rather than round the clock like the emergency shelter.

The second zone of the facility would be the emergency shelter. This would be staffed round the clock and would be under the highest level of security. Volunteers or live-in attendants would run this portion of the facility. Victims who need assistance after the hours of the support services center can be checked directly into this facility. Women and children may stay in this portion of the facility for up to ninety days or until the threat has diminished. At this facility, women and children will begin the process of gaining their independence and move on to either transitional living or life on their own.

The third zone of this facility would be the transitional housing and it would allow women and children to live on their own but in a secure environment while they work to be completely independent. This type of housing would be apartment style where the residents would be free to come and go to work or school. This transitional living may be lived in for two years or longer if necessary.

Having these separate levels of independence and all treatment located within one building allows the victims to be seen without having to tell their story multiple times as the current systems requires.

MAIN LOBBY

FUNCTION

This space will be used as the main entry to the facility and it will house the work stations of the secretaries, who will be performing clerical duties and handling visitors to the facility. It will also serve as an intake for walk-in victims after the support services hours and will be a waiting area for the residents and visitors.

SPATIAL RELATIONSHIP

It will be the main entry to the facility and will server as the link between the three zones.

ACTIVITY LEVEL

This space will be highly active during the work day with professionals and residents coming and going between zones since it will be the main link to the two other zones.

OCCUPANCY

This space will be occupied by at least one person all hours of the day, all days of the week, but during regular business hours of the support center there will be two people occupying the secretaries desk. The waiting area may be occupied by as many as ten or fifteen people for an extended amount of time, if they are waiting for services.

AREA

This main lobby will be 1000 square feet to accommodate the reception desk and waiting area.

ADDITIONAL FACTORS

The main concern of this space will be providing security for the entire building. The entry way must be transparent so all visitors can be identified and all glass used here must be bullet proof. The doors will remain locked at all times and only someone from the inside may let any visitor enter. Communication between the inside and out will be achieved through an intercom system and remote door opener will allow the person to enter the building. Further security doors will enclose the reception area securing that neutral space from the rest of the facility. This space must also be inviting and comfortable because this will be the first place victims see when they come to this facility and it should make a good impression.

SUPPORT OFFICES

FUNCTION

This space will provide a work area for those professionals that run this facility and treat the patients. Some of these offices will double as counseling rooms, particularly the advocates and the psychologists.

SPATIAL RELATIONSHIP

These offices will be in close proximity to the main lobby space and in close relation to each other for ease of communication between the departments.

ACTIVITY LEVEL

These spaces will have a high activity level throughout the day but virtually nonexistent after hours.

OCCUPANCY

The space will be occupied by one employee and may be occupied by up to six additional people if they are meeting with clients.

AREA

The facility will have thirty-five associate offices each 150 square feet for a total of 5250 square feet.

ADDITIONAL FACTORS

Many of these spaces will have to appeal to children and so they should be comfortable and child friendly with a home like atmosphere. These offices should also have ample setting for counseling sessions. The acoustics in each room should be good to avoid any confidential information heard in the hall.

MEETING ROOMS

FUNCTION

The large and small meeting room will provide space for staff meetings, volunteer training and community education events.

SPATIAL RELATIONSHIP

The small meeting room will be centrally located to the support offices and the larger meeting room will be located off the main lobby so that community events can be held in that space without breaching the security of the facility.

ACTIVITY LEVEL

These spaces will be used regularly on a weekly, even daily basis because it is a versatile space that could be used for several functions.

OCCUPANCY

The small meeting room will be large enough to hold twenty people comfortably and the larger meeting room will be large enough to hold fifty people comfortably.

AREA

The smaller meeting room will be 350 square feet and the larger meeting room will be 900 square feet, 1250 square feet total.

ADDITIONAL FACTORS

The large meeting space will have good acoustics so that everyone can hear appropriately during meetings. The room will also have to be equipped with audio-visual equipment for presentations. Special lighting will help to highlight presentation boards and provide varying degrees of lighting for viewing presentations and taking notes.

DAY CARE

FUNCTION

A place for children to go during the day if mothers are trying to find work, are working or are attending school. It provides education, play time and socializing with other children. It include an indoor play area and an outdoor play area.

SPATIAL RELATIONSHIP

The outdoor play area will be centrally located to all three zones so children in the facility have easy access to the outdoor play area. The indoor play area will be inside the support services center.

ACTIVITY LEVEL

These two spaces will be busy during the day with moderate activity in the outdoor space in the evenings.

OCCUPANCY

The day care space will provide enough room for two day care providers if necessary and up to twenty children.

AREA

The outdoor play area will be 1000 square feet and the indoor play area will be 1000 square feet also.

ADDITIONAL FACTORS

This space will have the latest in playground equipment and the interior space will have educational tools that challenge all intellectual aspects so that children don't fall behind if they must leave their regular day care. The most important aspect that the outdoor space must provide is security.

MEDICAL EXAM ROOMS

FUNCTION

The exam rooms are where the medical exams can be performed for those victims who have been physically abused. They can collect physical evidence immediately and give the patient any treatment they may need.

SPATIAL RELATIONSHIP

The exam rooms will be placed in relation to the medical providers offices within the support services center.

ACTIVITY LEVEL

The activity level of this space will be minimal depending on need.

OCCUPANCY

The exam rooms will be large enough for the medical professional and the victim.

AREA

The two exam rooms will be 100 square feet each.

ADDITIONAL FACTORS

This space will provide the typical exam equipment including an exam table, sink and storage cabinets.

VISITATION ROOMS

FUNCTION

This space provides a place to children to have visitation with a parent if a judge has put restrictions on their interaction. It provides a completely supervised area for visitation where the disputing parents do not have to interact.

SPATIAL RELATIONSHIP

This space is in relation to the advocates offices who would be in charge of supervising the visitation. It will also need to be located at the periphery of the support services center.

ACTIVITY LEVEL

The activity in this space will be moderate during the day and early evening, and possibly activity on weekends.

OCCUPANCY

These spaces will be large enough to hold six people comfortably including toys, tables and couches.

AREA

There will be three visitation rooms, each being 100 square feet, for a total of 300 square feet.

ADDITIONAL FACTORS

This space will have a separate entrance so that it can keep hours different from the support service center, though it will be located inside it. Having the separate entrance will keep the rest of the facility secure. Also the rooms will be equipped with video cameras so that all interactions can be monitored outside the room.

LOUNGE

FUNCTION

This space will be for the employees to take breaks and have lunch.

SPATIAL RELATIONSHIP

This space will be centrally located to all the staff in the support services center.

ACTIVITY LEVEL

The activity level in this space will be heavy in the morning, at lunch and mid afternoon, with random activity in between.

OCCUPANCY

The lounge will seat up to twenty-five people.

AREA

The space will be 700 square feet.

ADDITIONAL FACTORS

This space will have the function of a regular kitchen and will include a television and couch for relaxation.

RESIDENCES

FUNCTION

This space would be the residences of victims who are staying for an extended period of time. These spaces include a private bathroom.

SPATIAL RELATIONSHIP

These space will be the main spaces in this zone of the facility and all other spaces will be in relation to these, however this space will be located in close relation to the support services center.

ACTIVITY LEVEL

These spaces will have a moderate activity level with residents coming and going.

OCCUPANCY

The residences in the emergency shelter will consist of two types of rooms, individual rooms for a single women or family rooms for a women and her children, up to six family members.

AREA

There will be five family sized rooms and ten individual size rooms. The individual rooms will be 225 square feet and the family size rooms will be 500 square feet for a total of 4750 square feet.

ADDITIONAL FACTORS

These spaces will be comfortable and made to feel like home and not an institution or hotel. Each room will be decorated differently to get away from the institutional feel.

TRANSITIONAL RESIDENCES

FUNCTION

A place for residents to live in a secure apartment life style while they get back on their feet and gain their independence.

SPATIAL RELATIONSHIP

These spaces will encompass the majority of this zone and all other spaces within this zone will relate to these residences but this division will be closely related to the support service center for convenience.

ACTIVITY LEVEL

These spaces will have a moderate activity level throughout the entire day.

OCCUPANCY

The units will consists of one bedroom, two bedroom and three bedroom models. The one bedroom being for a single women and the larger two and three bedrooms will be for women and up to five children.

AREA

There will be ten one bedroom units, five two bedroom units and five three bedroom units. The one bedrooms will be 650 square feet, the two bedrooms will be 750 square feet and the three bedrooms will be 1000 square feet for a total of 15,250 square feet.

ADDITIONAL FACTORS

Each apartment would have the amenities of home such as living space a bedroom, bath and full kitchen. They will each be decorated differently to give a feeling of home.

KITCHEN/DINING

FUNCTION

The emergency shelter residents will share a large communal kitchen and dining space for cooking and eating meals.

SPATIAL RELATIONSHIP

The kitchen and dining space will be located centrally in relation to the resident's rooms for convenience.

ACTIVITY LEVEL

This space will have a high activity level during the morning, lunch and dinner and more random activity in between.

OCCUPANCY

The dining space can seat up to twenty people and three could use the kitchen space at a time.

AREA

The area of this space is 600 square feet.

ADDITIONAL FACTORS

This space will have a full working kitchen with dining room tables rather than commercial tables to keep the feel of the space more residential and less institutional.

STUDY/COMPUTER LOUNGE

FUNCTION

A space for residents to study, use the internet for communication, finding jobs, or taking classes.

SPATIAL RELATIONSHIP

It will be centrally located in the emergency shelter but is a shared space with the transitional living residents as well so they too have access to the resources.

ACTIVITY LEVEL

This space will be moderately active through all hours of the day.

OCCUPANCY

The room will provide space for three people to use the computers at a time but more space for seven more people to study or relax.

AREA

This space will be 150 square feet.

ADDITIONAL FACTORS

The computer lounge will contain three computers that have internet access and a printer. The space will also contain tables and couches for comfortable studying.

RESTROOMS

FUNCTION

A place for toilets and sinks for washing hands.

SPATIAL RELATIONSHIP

These will be centrally located in the support services center for easy access to all those who work in that zone.

ACTIVITY LEVEL

The activity level will be moderate as it will be used randomly throughout the business day.

OCCUPANCY

Each restroom will provide enough space for three people to use the restrooms at a time and room for several more people in the space outside the stalls.

AREA

There will be two restrooms for both males and females, each being 250 square feet, for a total of 1000 square feet.

ADDITIONAL FACTORS

The restrooms should have adequate lighting.

STORAGE

FUNCTION

A place for housing donations, extra equipment, furniture or belongings of the residents.

SPATIAL RELATIONSHIP

The storage will be close to the office of the fund raiser coordinator who would be in charge of collecting donations. It would also be close to the garage/loading dock where larger donations will be taken in.

ACTIVITY LEVEL

The activity level in this space would be low and may only have activity once a week or even once a month.

OCCUPANCY

No one would occupy this space for any length of time.

AREA

Two storage spaces in the support services center would be 225 square feet each, the storage space in both the transitional living and emergency shelter will also each be 225 square feet for a total of 900 square feet.

ADDITIONAL FACTORS

These spaces must provide several levels of storage including shelving, hanging space for clothing and drawers for smaller items.

MAINTENANCE

FUNCTION

A space for maintenance equipment with access to a work sink.

SPATIAL RELATIONSHIP

This space will be located in relation to the mechanical/ electrical space because the activity level of the space is low and so any noise created by the mechanical space will have little affect.

ACTIVITY LEVEL

The activity level in this space will be low until after hours in the support services center but maintenance on the emergency shelter and transitional housing will take place during the day.

OCCUPANCY

This space will not have more than one occupant at a time.

AREA

The three maintenance spaces will each be 50 square feet for a total of 150 square feet.

ADDITIONAL FACTORS

This space will have a work sink and shelves to hold cleaning supplies.

MECHANICAL/ELECTRICAL

FUNCTION

A space to house the mechanical/electrical equipment.

SPATIAL RELATIONSHIP

A mechanical space will be located in each zone for maximum efficiency.

ACTIVITY LEVEL

This spaces activity level will be extremely low and only when maintenance is necessary.

OCCUPANCY

No one will occupy this space for any length of time.

AREA

Each mechanical/electrical space will be 175 square feet for a total of 525 square feet.

ADDITIONAL FACTORS

This space will have increased acoustical design to make sure that the noise created in this space will not affect the surrounding spaces.

CIRCULATION

FUNCTION

Space to move from one place to another.

SPATIAL RELATIONSHIP

This space must relate to all spaces for the facility to function properly.

ACTIVITY LEVEL

This space has a high activity level, especially during business hours, however the circulation space in the emergency shelter and transitional housing will be less frequent but will have activity nearly all hours of the day.

OCCUPANCY

No one will occupy this space for any length of time but the space will be large enough to evacuate people from the building in the event of an emergency.

AREA

Circulation space will be created wherever necessary.

ADDITIONAL FACTORS

This space will need to be lit appropriately, especially during an evacuation. There will need to be good acoustical control between the circulation space and the surrounding offices to ensure the privacy and confidentiality of the conversations taking place inside the offices.

PARKING

FUNCTION

Place for staff and residents to park their vehicles.

SPATIAL RELATIONSHIP

All three zones of the facility will share a single secured parking area.

ACTIVITY LEVEL

This space will be very active at the start of the work day, at lunch and at the end of the work day with random activity in between.

OCCUPANCY

No one will occupy this space for any period of time but cars will occupy these spaces all times of the day. The sixty parking spaces will accommodate the residents, staff, visitors and volunteers.

AREA

The parking area will be 8,000 square feet.

ADDITIONAL FACTORS

The parking area will need to be secure so that residents can move from their vehicles to the shelter safely.

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Architectural Design Strategies. New York: John Wiley
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APPENDIX

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| THESIS DESIGN PROCESS | 70 |

DESIGN INTENT

CRISIS CENTER FOR RAPED AND ABUSED WOMEN AND CHILDREN

Investigating The Effects Environment has on Emotional and Physical Healing of Victims - Grand Forks, North Dakota

For some women and children, life is lived in constant fear of abuse. The reality is that many of them are unable to leave their unfortunate situations because they are dependent on the abuser in many ways including financially and emotionally. The victims need to know there is a facility with professionals that are trained specifically to help with their situation whether it be physical, emotional or legal help.

The focus of this thesis project is to provide physical and emotion healing through environment in a facility that provides a safe haven for victims of abuse. My research has shown that the current crisis center in Grand Forks is inadequate to provide all the appropriate services necessary because the facility is simply too small and does not provide privacy or security. When facilities are inadequate, users feel uncomfortable making the transition to independence from their abuser. A more appropriate facility would lead to many more successful transitions

The course of the research will describe the victims of these crimes and determine what they feel is necessary for them to make the transition to independence. Case studies and interviews will be used to gain an understanding of the successes and failures of the existing facility. In developing a design, I will respond to all the needs of the two clients involved, the social service agency and the victims. After investigating the fundamental aspects of this project, I determined that a site near the Red River, on the corner of Lewis Boulevard and Seward Avenue, would best meet the needs of this type of facility. My research will determine the best program and I will continue to explore all the dimensions of the project to develop a design that will address the needs of a variety of users.

The underlying premise of the design is that the built environment will facilitate emotional and physical healing and unfortunate social problems can be aided by a thoughtful and thoroughly designed project.

DESIGN PROPOSAL

A. TITLE

Rape and Abuse Crisis Center in Grand Forks, North Dakota

B. BUILDING TYPE

My thesis project is the construction of a Rape and Abuse Crisis Center in Grand Forks, North Dakota for the 2600 victims of rape and abuse, this type of facility serves each year in North Dakota and surrounding areas. The facility will be the first of its kind in the state of North Dakota because it will provide all services in one location. The building will respond to the emotional and physical needs of area victims to facilitate healing and also respond to the site to provide a solution that is harmonious with the existing natural and built environment. The crisis center will provide a variety of services for those in need and serve as a pillar of support for victims of abuse.

C. THEORETICAL OR UNIFYING IDEA

Studies have shown the environment can have profound effects on the human emotions and psyche. Colors, sounds, textures and smells can impact the human emotion and facilitate healing and positive emotions. Also the facility will provide safe lodging and access to healthcare to promote physical healing. I will look at all the ways environment can stimulate the senses. I plan to incorporate all the aspects that stimulate the senses, to design spaces that will be comfortable and safe and give a sense of security for all the victims.

D. PROJECT JUSTIFICATION

Currently the facility in Grand Forks can only provide a limited amount of services because of its size and location and the current facility cannot provide shelter for an extended period of time. The focus of this project is to design a crisis center that can perform all functions. During this project, I will explore in depth the design issues that pertain to the senses and the effects they have on emotional and physical healing. This facility will be the only one of its kind in the Red River Valley. This area of Eastern North Dakota and Western Minnesota is growing extremely fast so a facility of this nature will be necessary to accommodate the growing need.

E. PROJECT EMPHASIS

- Promote emotional healing through the built environment and incorporate features that have been proven to have positive effects on people's emotions.
- Develop a secure but flowing plan and section to make the facility function as smoothly as possible.
- A design that encourages community healing. Healing can be increased dramatically if a person knows that they are not alone and they can share their experience with others in the same situation.

F. SITE INFORMATION

The site is located in one of the larger towns in the state. The site is in an area of town where the buildings were built in the late 1800s early 1900s and are on the lower end of the economic scale. The area is mainly residential but a few commercial properties lie near the site. The population consists of elderly and young families. The area was flooded in 1997 but is in a great location with views of the river. The site sits at the corner of Seward Avenue and Lewis Boulevard and is bordered by the river. It lies one block north of highway two, a major thoroughfare through north Grand Forks. The site is surrounded by great old growth trees that provide shade and create great character on the streets running in front of the site. The views and vistas of this site face the east towards the river. There are currently no existing structures on the site but residential homes surround the site to the north and the west. The site is fairly quiet because it is residential but there is some noise from the traffic of the highway, however, this amount is fairly minimal. The winds of the site are generally from the north or northwest and southeast.

G. MAJOR PROJECT ELEMENTS

- Main Lobby
- Reception Area
- Residence Rooms
- Support Offices
- Daycare
- Counseling Rooms
- Exam Rooms
- Visitation Rooms
- Meeting Rooms
- Kitchen
- Lounge
- Dining Area
- Restrooms
- Storage
- Mechanical/Electrical
- Circulation
- Parking

H. USER/CLIENT DEFINITION

The rape and abuse crisis center will be designed as a public yet private facility for the residents of Grand Forks and many surrounding communities up and down the Red River Valley in North Dakota and Minnesota. The rape and abuse Crisis center will be run by grants and donations from the residents of Grand Forks. The majority of the users will be females and children who come from limited economic backgrounds.

The support personnel that will be required to run the facility will be 100 employees and volunteers that will be working around the clock. Some of the positions would include 3 Receptionists that would occupy the main desk 24 hours a day to handle walk-in victims. Their duties would also include answering phones, checking in and checking out residents and other clerical duties. 2 Volunteer Coordinators to coordinate large numbers of volunteers for projects, 1 marketer and fund raiser coordinator to get people to donate their time and services. 1 Resource Advisor to oversee the coordination of donations from many organizations and securing new donors. 2 Psychologists to provide counseling to the victims and employees in the facility and be available on an on-call basis. 2 Legal Aids to provide legal advice and services at no cost to the victim. 1 Accountant to manage monetary donations and support and would also be in charge of payroll for the facilities employees. 1 Maintenance worker to make repairs to the facility and do grounds keeping. 3 Maids to maintain the interior of the space. 1 educator in charge of community involvement and awareness and training the volunteers. 2 Security officers to provide 24 hour around the clock security. 2 Daycare providers for the children. 1 Cook and 1 Dining service personnel to provide meals for residents. And the most important support for the facility is the over 50 volunteers that donate their time doing a variety of duties including organizing donations of food and clothing, picking up donations, major cleaning projects, running the 24 hour crisis hot line, doing community awareness events and driving residents. This facility will be operated 24 hours a day everyday of the year to serve the 2600 or more victims who will use this facility each year. Parking for the workers, several residents and some volunteers, will be provided on the site and parking on the street is permitted for overflow parking.

I. DESIGN METHODOLOGY

Through the use of case studies and the study of the effects of environment on human emotions, an understanding of the specific features required for a crisis center will be gained. The knowledge gained from the studies on environment and emotional healing will help me develop the other aspects of the project such as building materials, day lighting, spatial requirements and acoustic specifications. Further research will look into sustainable and efficient design to make the facility as financially viable as possible, considering the facility is run on donations and grants.

J. REALIZATION OF THE DESIGN METHOD IN THE DESIGN PROCESS

The conclusions I have drawn from my research will be the guiding force throughout the design process. It will be referred to and utilized at many stages of the design process. The study of other successful facilities is a great resource that impacts all stages of the design.

K. WORK SCHEDULE

Week 1-3
Research

Week 4-10
Work on Program

Week 11-14
Case Studies

Week 15-18
Conceptual Design Work

Week 19-23
Design Development

Week 24-29
Presentation Drawings

Week 30
Thesis Project Due

L. DOCUMENTATION OF THE DESIGN PROCESS

My Research will be documented in a binder and organized into sections related to my design topics. The design process will be documented from the beginning to the end, dated and kept in order. Sketches and notes will be kept in a sketchbook and all other design work will be kept in a folder.

M. BIBLIOGRAPHY/RESOURCES

INTERNET SITES

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www.personal.umich.edu/~rdeyoung/envtpsych.html

www.heartयोग.com/psychology_of_place.html

www.placeperformance.com/features/chap101.htm

INTERVIEW

Allen. Resource Advisor. Rape and Abuse Crisis Center. Fargo. 16 September, 2004.

LITERATURE RESEARCH TOPICS

Environmental Psychology

Architectural Psychology

N. PREVIOUS STUDIO EXPERIENCE

2ND YEAR FALL: YURGENS

Form Studies

Additive/Subtractive

Organization Patterns

Wall Design

Architectural Style Study

To develop the wall design

Culinary School and Restaurant

Downtown Fargo

2ND YEAR SPRING: D'ANJOU

Architecture School in Copenhagen

A Group Design

An Individual Design

Redevelopment of Ground Zero

Conceptual Residential Space

Walking Bridge Design

All school project

3RD YEAR FALL: ELNAHAS

Universally Designed Housing Community

Arboretum

3RD YEAR SPRING: MARTENS

NDSU Memorial Union Redesign

Masonry Competition

Fluid Motion Fitness Center

4TH YEAR FALL: BARNHOUSE/URNESS/WALTERS

Urban Design: Downtown Fargo

4TH YEAR SPRING: KRATKY

High Rise Project: San Francisco

Housing Development in Moorhead, MN

Marvin Windows Design Competition

Kite Design

5TH YEAR FALL: WARONKER

Olympics Traveling Display

Redesign of Supreme Court Building

DESIGN THESIS PROCESS

After developing the program and space planning, a natural grouping of spaces formed, each of them having very different functions and different security needs. Given that basis and the need to develop secure outdoor spaces, led to the development of a secure outdoor courtyard. The three sections of the building would form the boundaries of the courtyard. The idea of the courtyard led to new opportunities in the design, including the opportunity to maximize the light to the interior spaces with large areas of glazing, while providing privacy and security.

When developing the form, initially the structure was two stories. After viewing the model of it, it was obvious it was necessary to keep the building on a low vertical scale since the site is located in a residential district. The building is considerably larger than the surrounding homes but by keeping the design to a single level the building would not seem so imposing.

The aspects of the how a person approaches the building was considered extensively. The parking was designed to be somewhat enclosed by the building form to provide security. All those who enter the building must be let in by an employee, so a person may have to stand outside the door for several minutes. It was important to provide shelter and also allow full view of the door so all those entering may be seen.

This building was designed not only to provide a secure shelter but also to facilitate the healing process. One main goal of the design process was to allow every space to have maximum access to light since natural light can have such a powerful impact on a person's emotions. The design developed with the use of clerestory windows wherever possible to provide light to even the hallways. The design took another step in borrowing that light from the hall to give even more light to the residential units.

After finishing the space planning, structure bays became obvious and lent themselves to the use of load bearing walls. In an effort to provide the residents with a natural and soothing environment, ideas about the materials started to take place. Since the decision to use load bearing walls had been made, the idea to use stone backed by CMU was an obvious choice to provide structure and natural beauty. The use of wood as another main material was important because it

is natural and has beauty. The use of exposed glue lam beams and exposed wood decking provides a good contrast to the stone walls.

Since the three sections of the design had different functions, it was important to provide links between the spaces. The use of the shared public spaces as the links was an effective transition from one area of function to another.

The following images document the design process from the beginning to the final presentation.

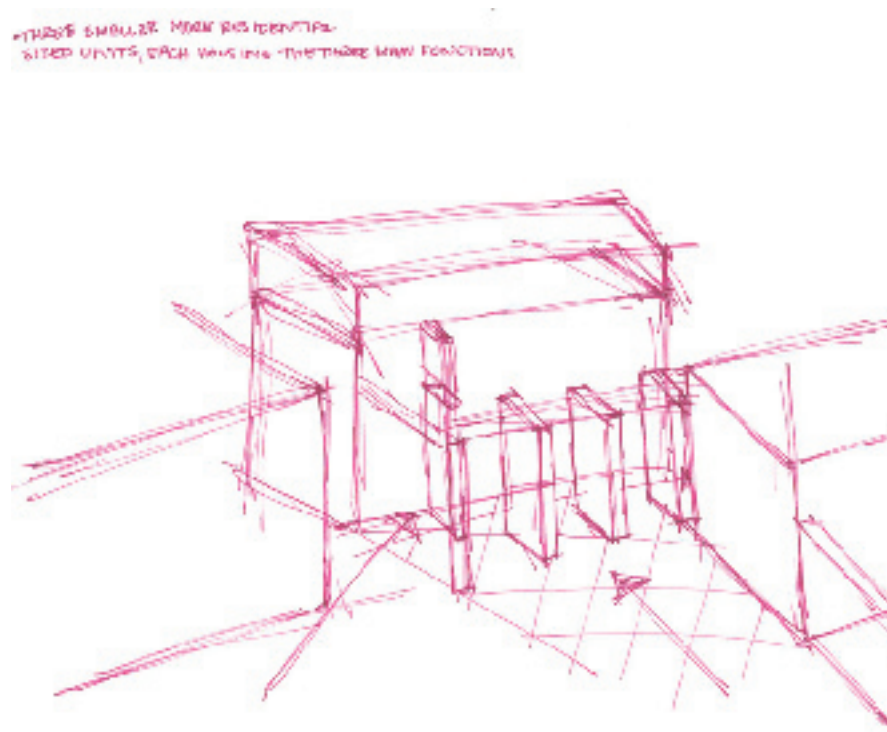


Figure 71 Process Sketch

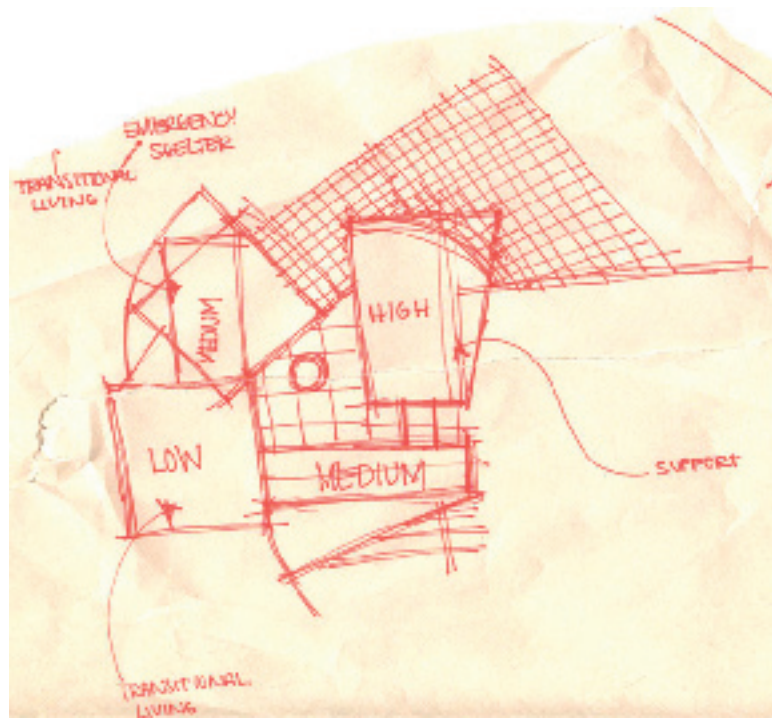


Figure 72 Process Sketch

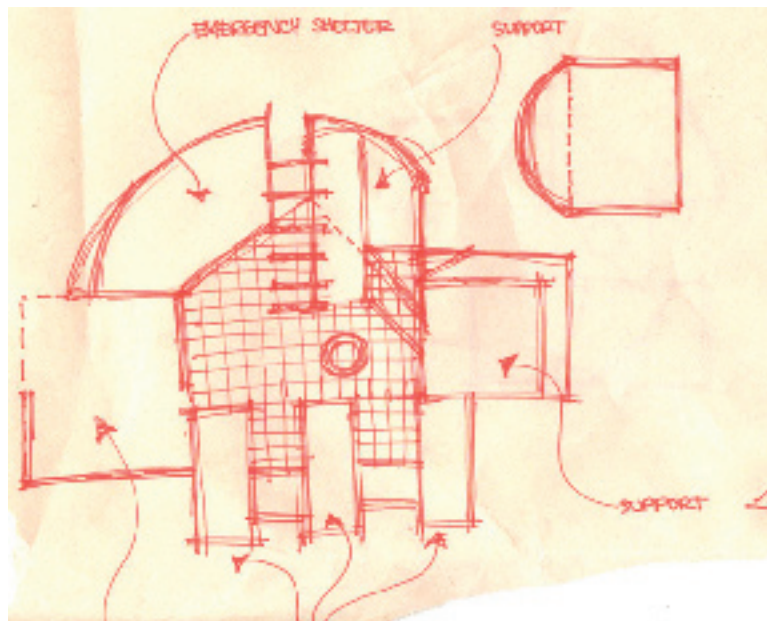


Figure 73 Process Sketch

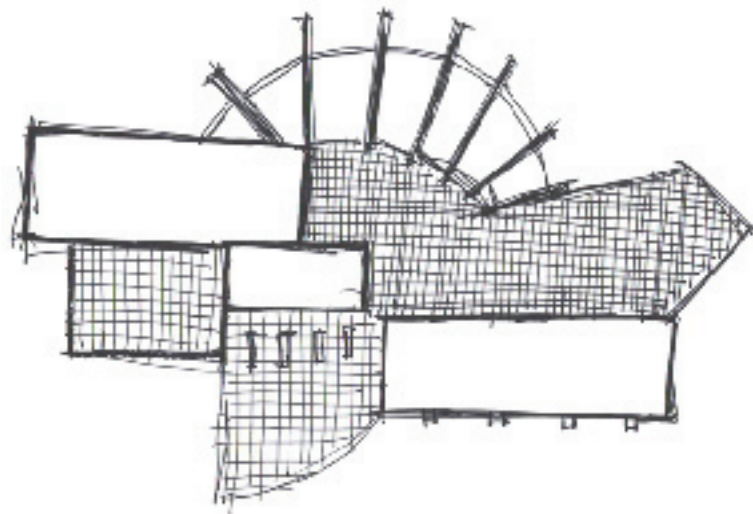


Figure 74 Process Sketch

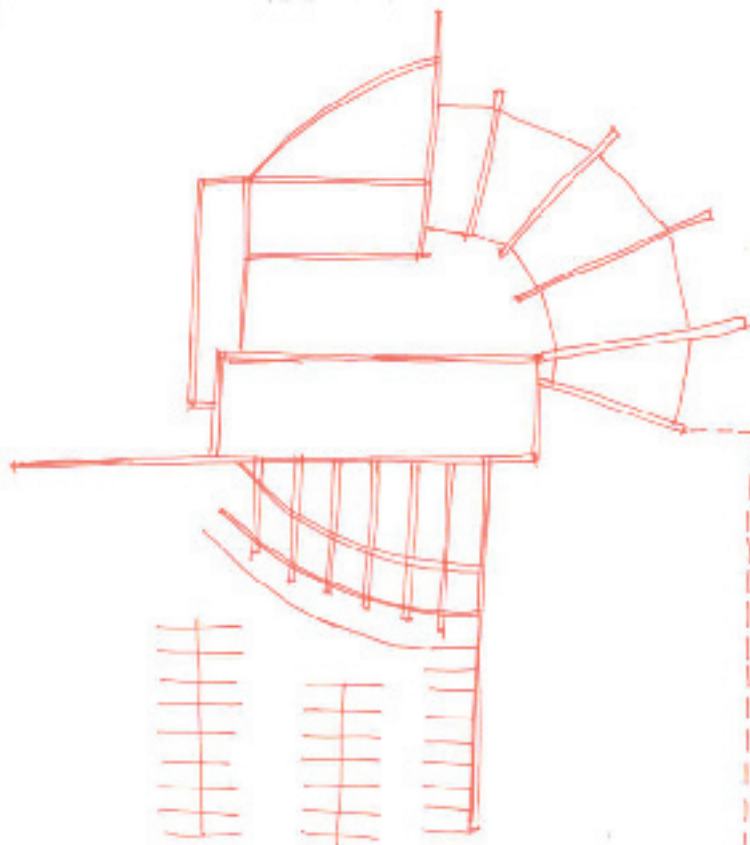


Figure 75 Process Sketch

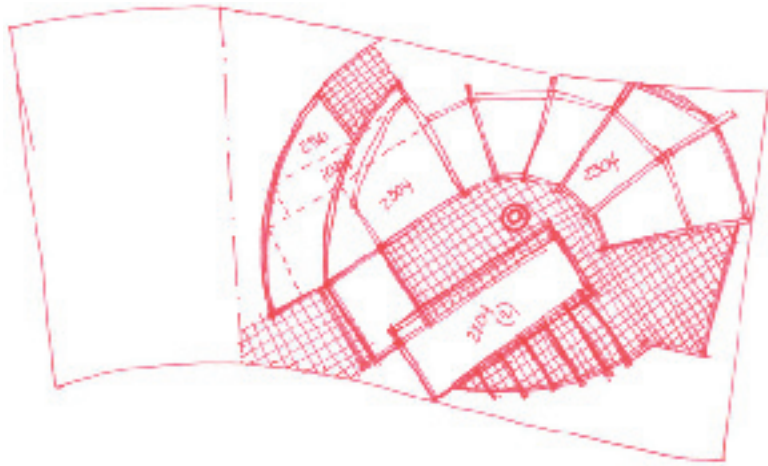


Figure 76 Process Sketch

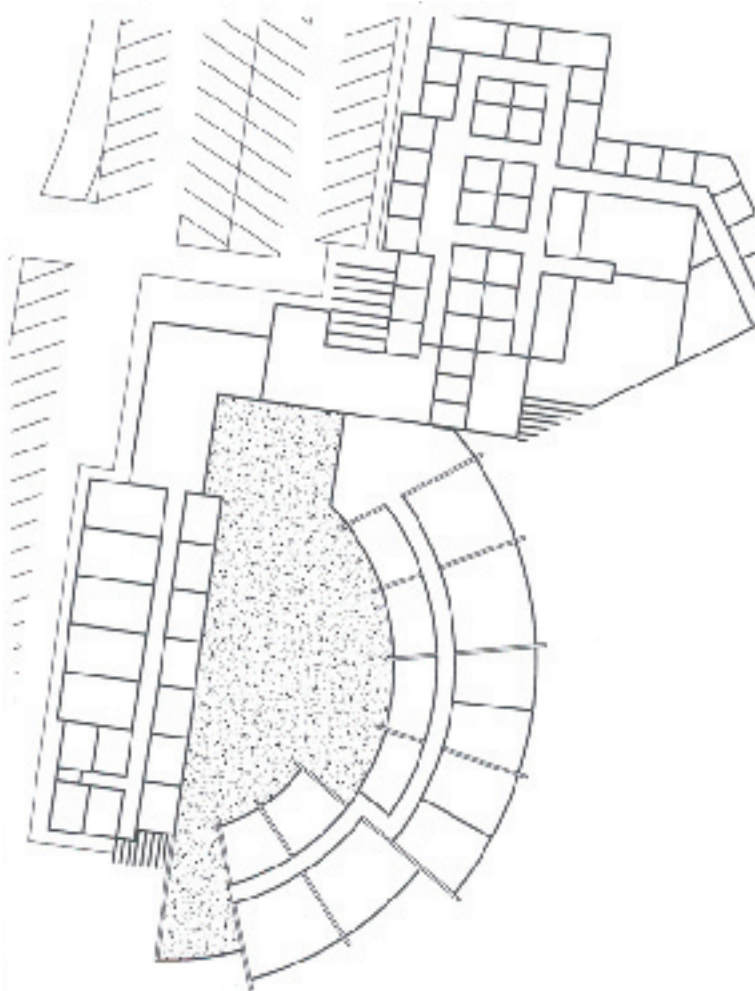


Figure 77 Process Sketch

FINAL THESIS PRESENTATION BOARDS

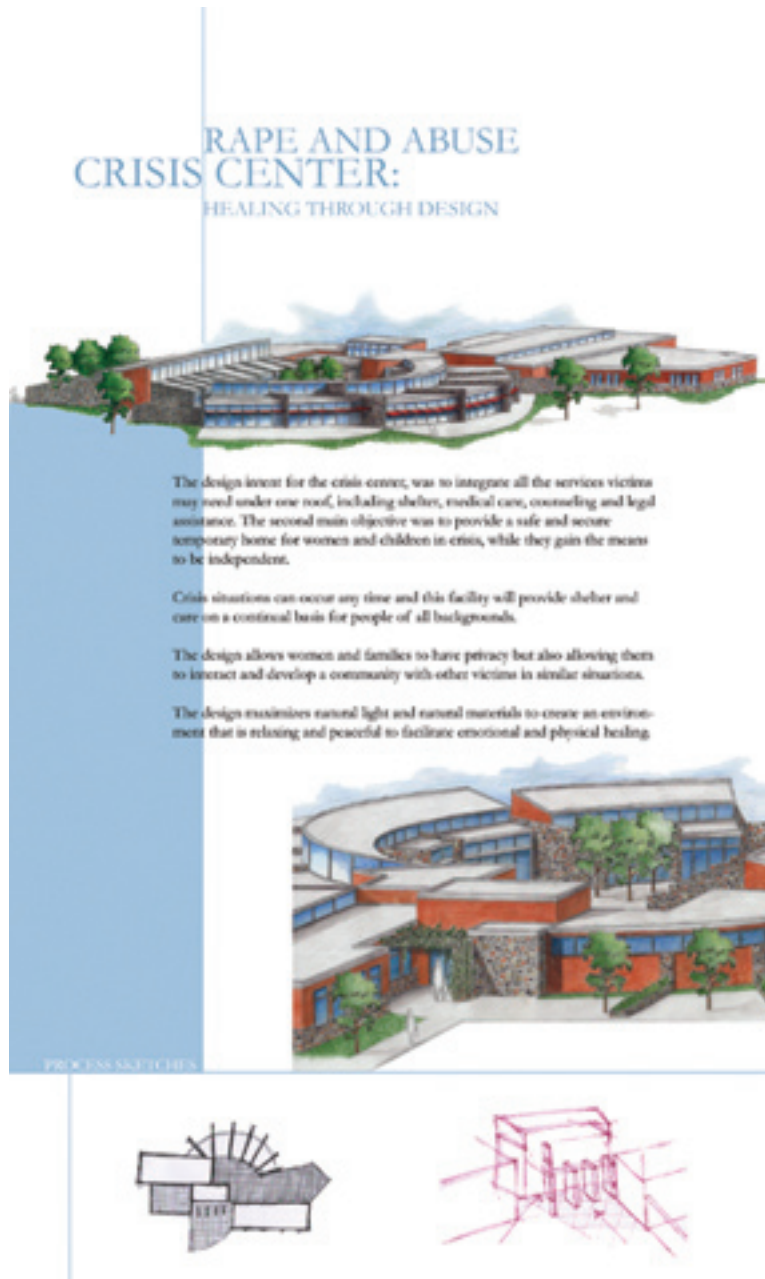


Figure 78 Presentation Board One



Figure 79 Presentation Board Two

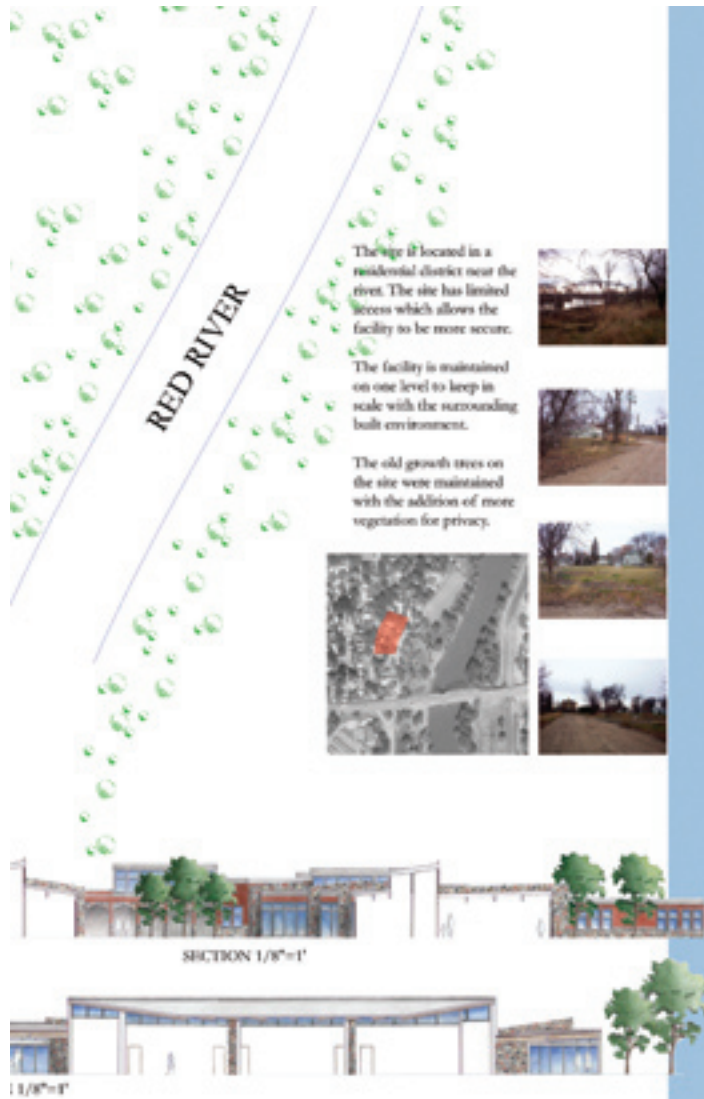


Figure 80 Presentation Board Three

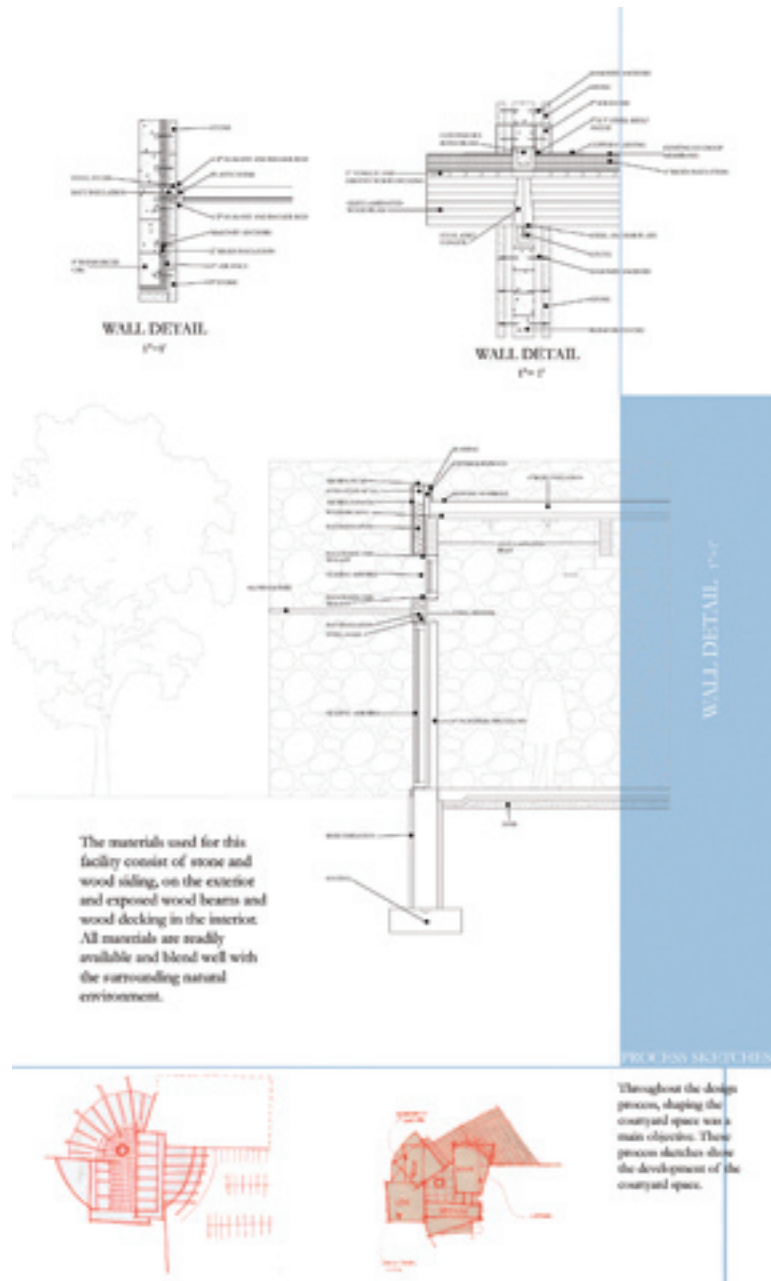


Figure 81 Presentation Board Four