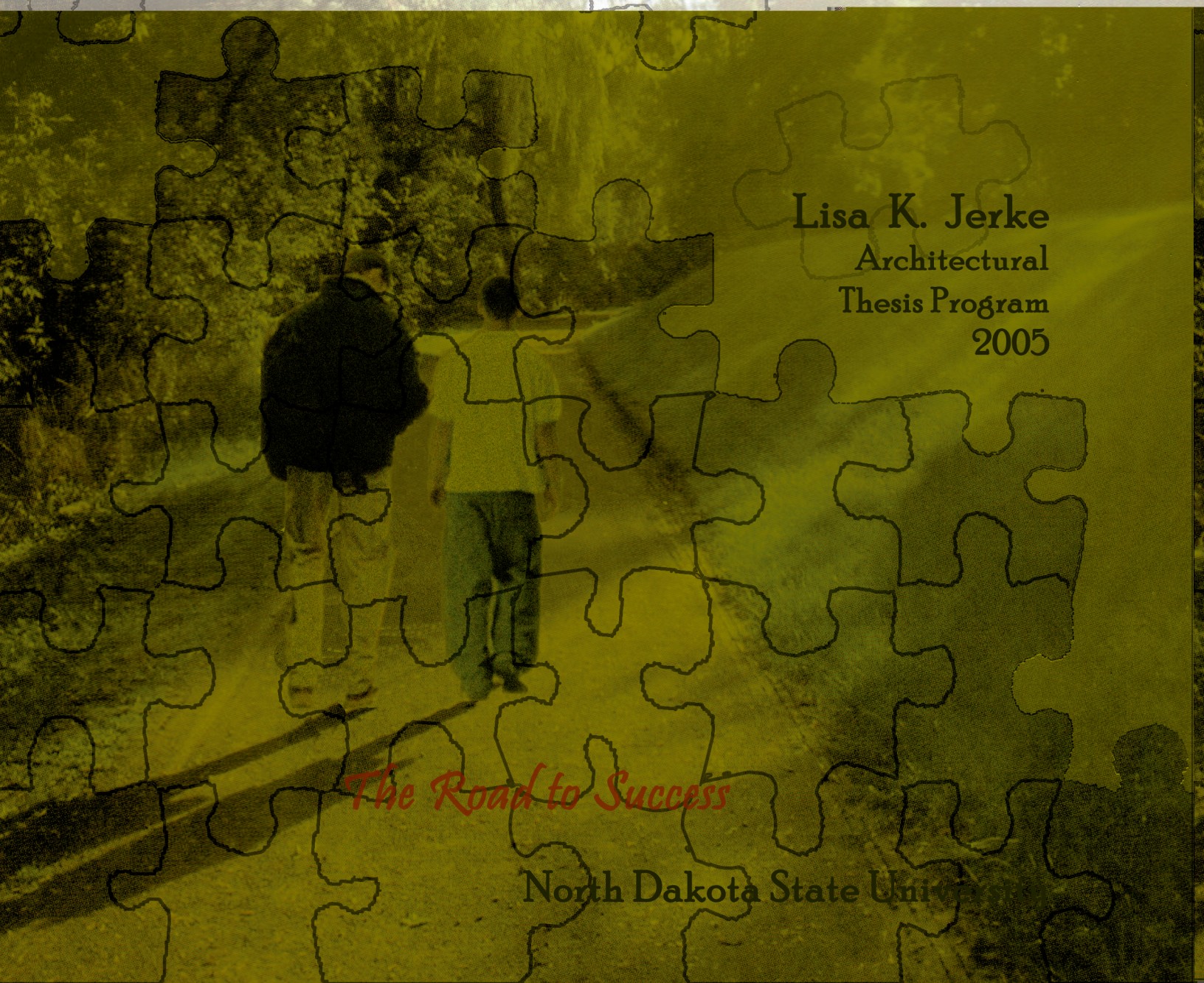
North Dakota Youth Correctional Center

the Exploration of a Multi-faceted Campus



Lisa K. Jerke
Architectural
Thesis Program
2005

The Road to Success

North Dakota State University

North Dakota Youth Correctional Center

An Exploration of a Multi-faceted Campus

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

by

Lisa K. Jerke

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

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May 2005
Fargo, North Dakota

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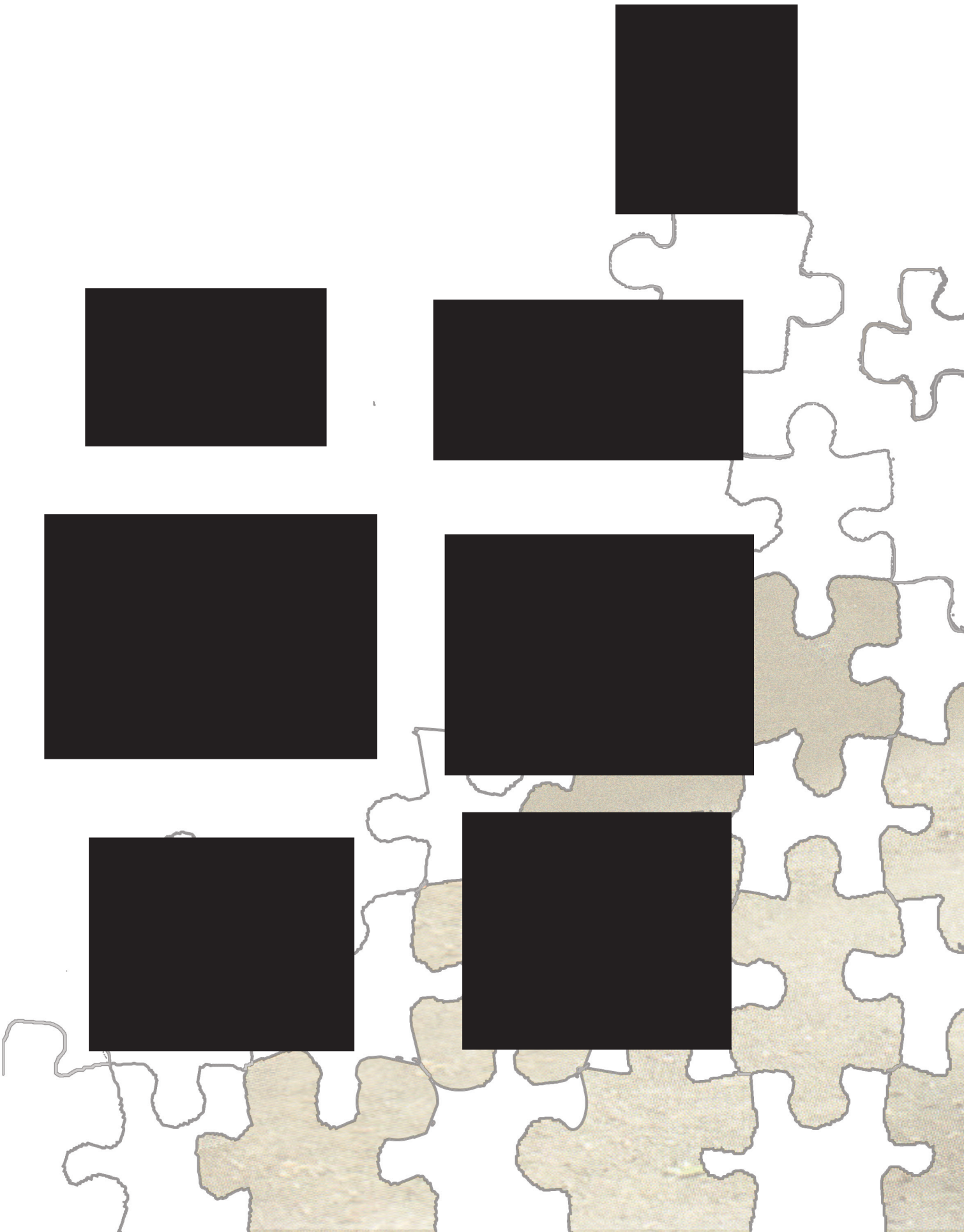
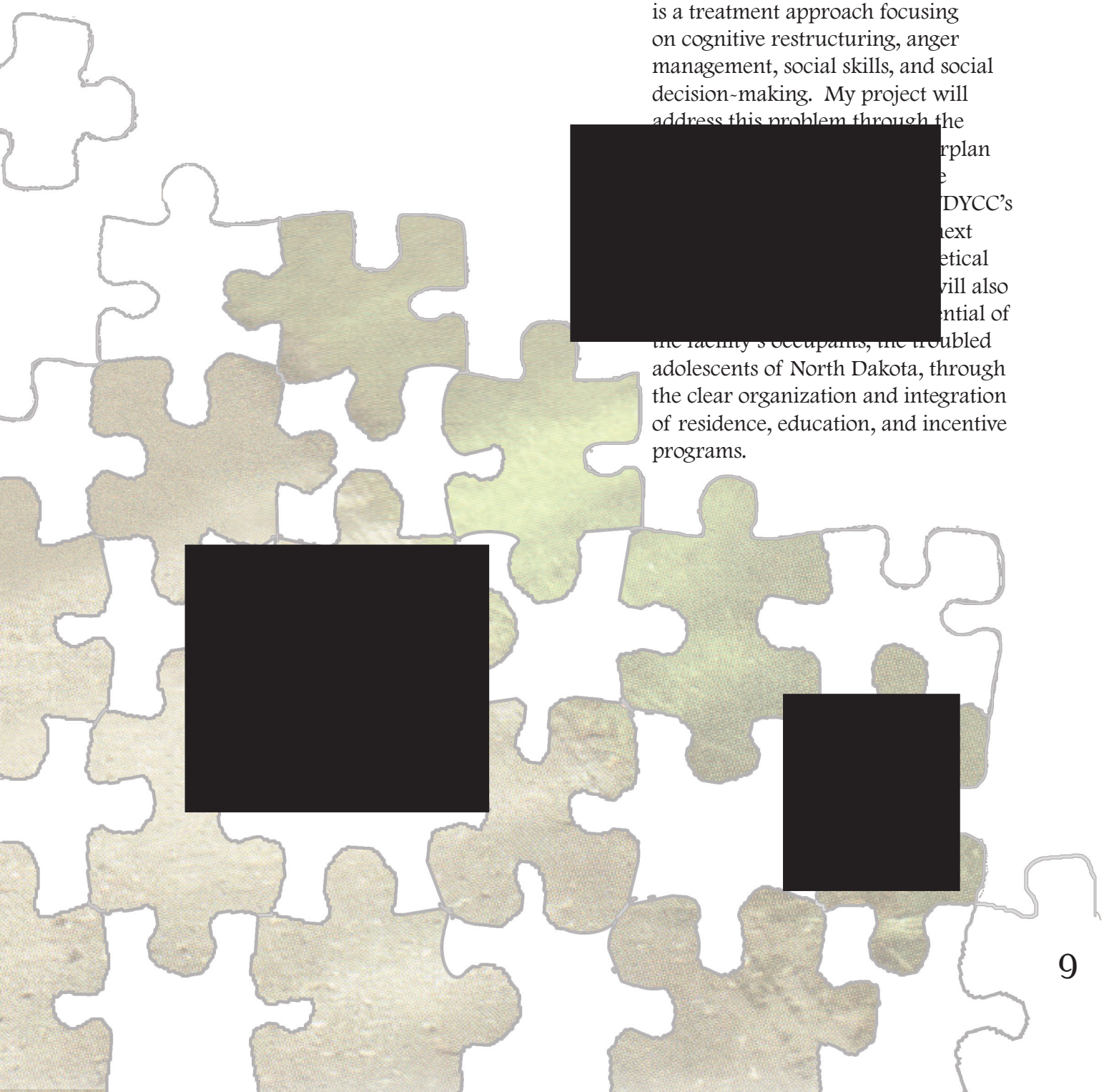
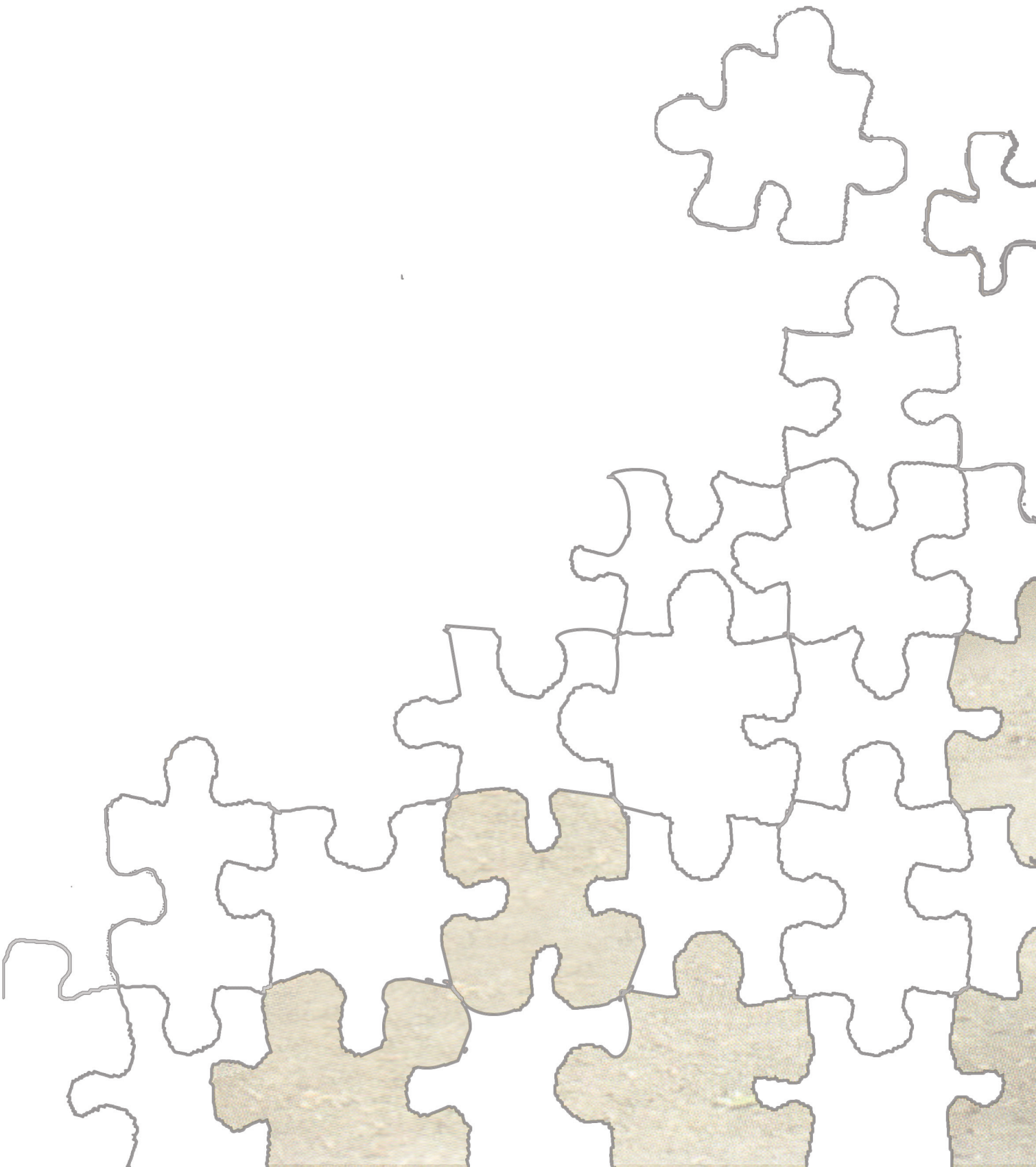


Abstract

The campus of the North Dakota Youth Correctional Center (NDYCC) lies nestled between the Heart River to the east and the scenic buttes to the south. Just outside the city center of Mandan, North Dakota. Due to a disconnected campus, NDYCC is presently struggling to implement a new treatment entitled, Educating for Quality by Understanding Interpersonal Potential (EQUIP), which is a treatment approach focusing on cognitive restructuring, anger management, social skills, and social decision-making. My project will address this problem through the rplan DYCC's ext etical ill also ntial of the facility's occupants, the troubled adolescents of North Dakota, through the clear organization and integration of residence, education, and incentive programs.



Project Introduction



Project Introduction

General Description

Nestled between the Heart River and the scenic buttes, and just outside the ever growing city limits of Mandan, North Dakota, lies the campus of the North Dakota Youth Correctional Center (NDYCC). With no perimeter fences, this unusual juvenile correctional center focuses on alternative means of security while rehabilitating the troubled adolescents of North Dakota. The mission of NDYCC is to protect society while providing education, detention, and therapeutic services. Within a safe and secure environment, adolescents at NDYCC are prepared to return to a less restrictive placement in their communities with the skills to choose more appropriate behavior and to find success in their life.

This historic campus includes four male cottages and one female cottage. Other supporting buildings include the administration building, chapel, historic gymnasium/swimming pool, school, and dining hall. Being listed as a Historic District on the Secretary of Interior's Register of Historic Places, the campus has several buildings dating back to the 1920s, with several also listed on the Historic Register as contributing. The NDYCC campus is in dire need of not only a new masterplan, but also a new cottage prototype to house more youth in a a more positive rehabilitative environment, but also a change in the infrastructure to more adequately meet their mission in serving the adolescents of North Dakota.

General Description

Currently, NDYCC is implementing a new treatment entitled, Educating for Quality by Understanding Interpersonal Potential (EQUIP), which is an identity oriented treatment approach focusing on cognitive restructuring, anger management, social skills, and social decision-making. However, the current campus plan is not set-up for this treatment to reach its full potential in rehabilitating and preparing the youth to re-enter society due to its disconnected, spread out buildings that result in non-integrated programs. To solve this problem I propose the re-design of a new master plan that clearly distinguishes each buiding's role in the rehabilitation program by breaking hte campus into sections of residence, education, and incentive programs. In addition, I will also design a new cottage prototype that is based off the ideas of EQUIP. The cottage prototype could easily be duplicated as the campus expands to house more adolescents in the future. To further enable NDYCC's treatment theory to reach the next level of effectiveness, the theoretical premises of my thesis project will also focus on the interpersonal potential of the facility's occupants, the troubled adolescents of North Dakota, through the clear organization and integration of residence, education, and incentive programs on a campus level, building level, and individual level.

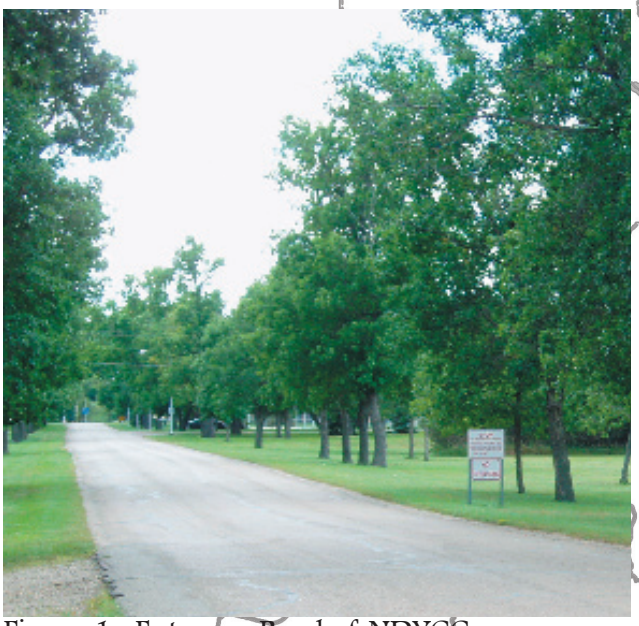


Figure 1: Entrance Road of NDYCC

Figure 2: Entrance Sign of NDYCC

Location

The North Dakota Youth Correctional Center is located west of Mandan, North Dakota just over the Heart River with the eastern half of the campus still lying within the city's corporate boundaries. The site is bordered to the south with a high bluff, to the east with the Heart River, and to the north with the Burlington Northern Santa Fe Pacific Railroad right-of-way. To the west of the campus lies farmland that is also owned by NDYCC.

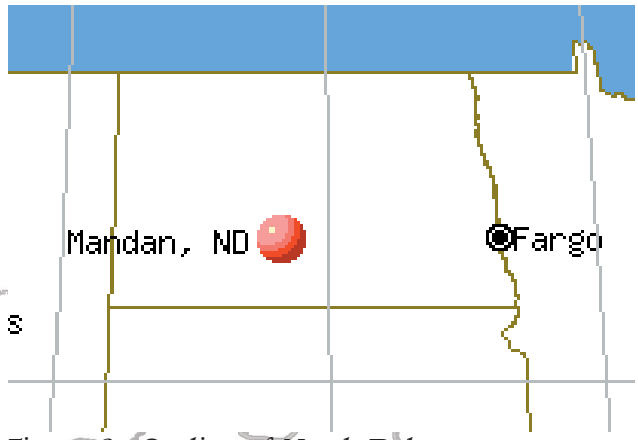
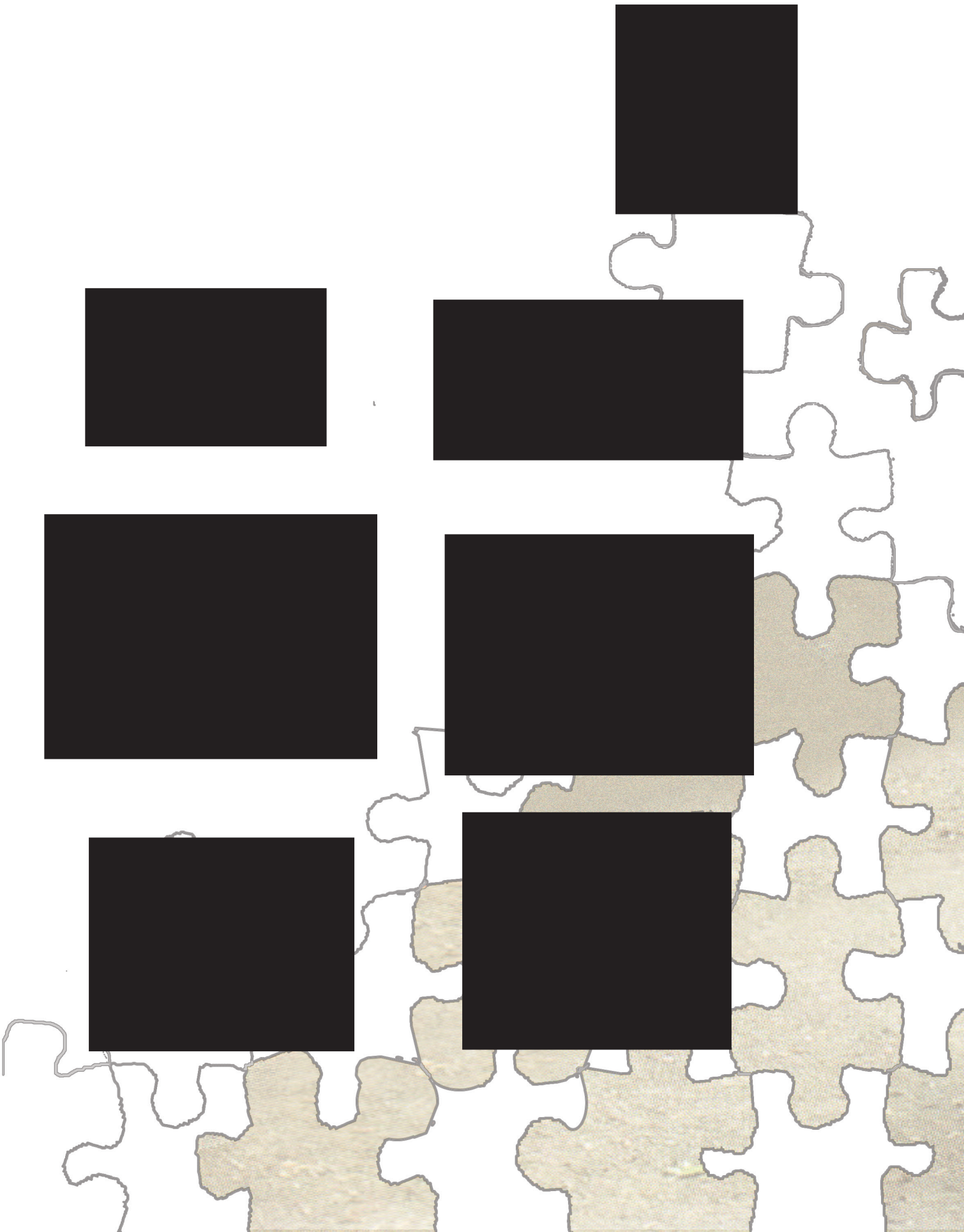


Figure 3: Outline of North Dakota

General History



General History

The Orgins of the North Dakota State Reform School

During the summer of 1889, 75 delegates, from the territory later to be named as the new state of North Dakota, met in the state capital city of Bismarck to begin the framing of the state's constitution. The location of the state's custodial and educational institutions became one of the most important issues discussed. The host-cities of these large publicly funded institutions were virtually guaranteed long-term economic vitality. The result of this was a major institution located in almost every major settlement. This brought the total to fourteen state institutions when North Dakota was admitted to the Union on November 2nd, 1889.

Just one year after the formation of the state of North Dakota, the state legislature enacted a law establishing the North Dakota State Reform School. Because the lawmakers repeatedly failed to appropriately fund the school, it took 13 years to officially open its doors to delinquent adolescents of North Dakota. Until 1903, all of North Dakota's delinquent youth were being sent to the former territorial reform school located in Plankinton in southeastern South Dakota. In 1901, at the same time that the legislature issued $20,000 in bonds to finance the construction, a Morton County landowner offered to donate a site for the facility.

General History

"Make its Surroun
Beautiful as Possi

The choice of a rural site grew from the idea that delinquent children could be rehabilitated by placing them in a carefully planned environment. The intention of a rural setting was initiated by prominent reformers of the time who believed that the agriculture skills gained and the confrontation between delinquents and the unspoiled earth had a spiritual and regenerative effect on the troubled youth. These agricultural skills [redacted] after [redacted] farm[redacted]

Besid[redacted] prog[redacted] also [redacted] This plan placed a limited the number of juveniles into modest but well-built cottages that resembled a well ordered

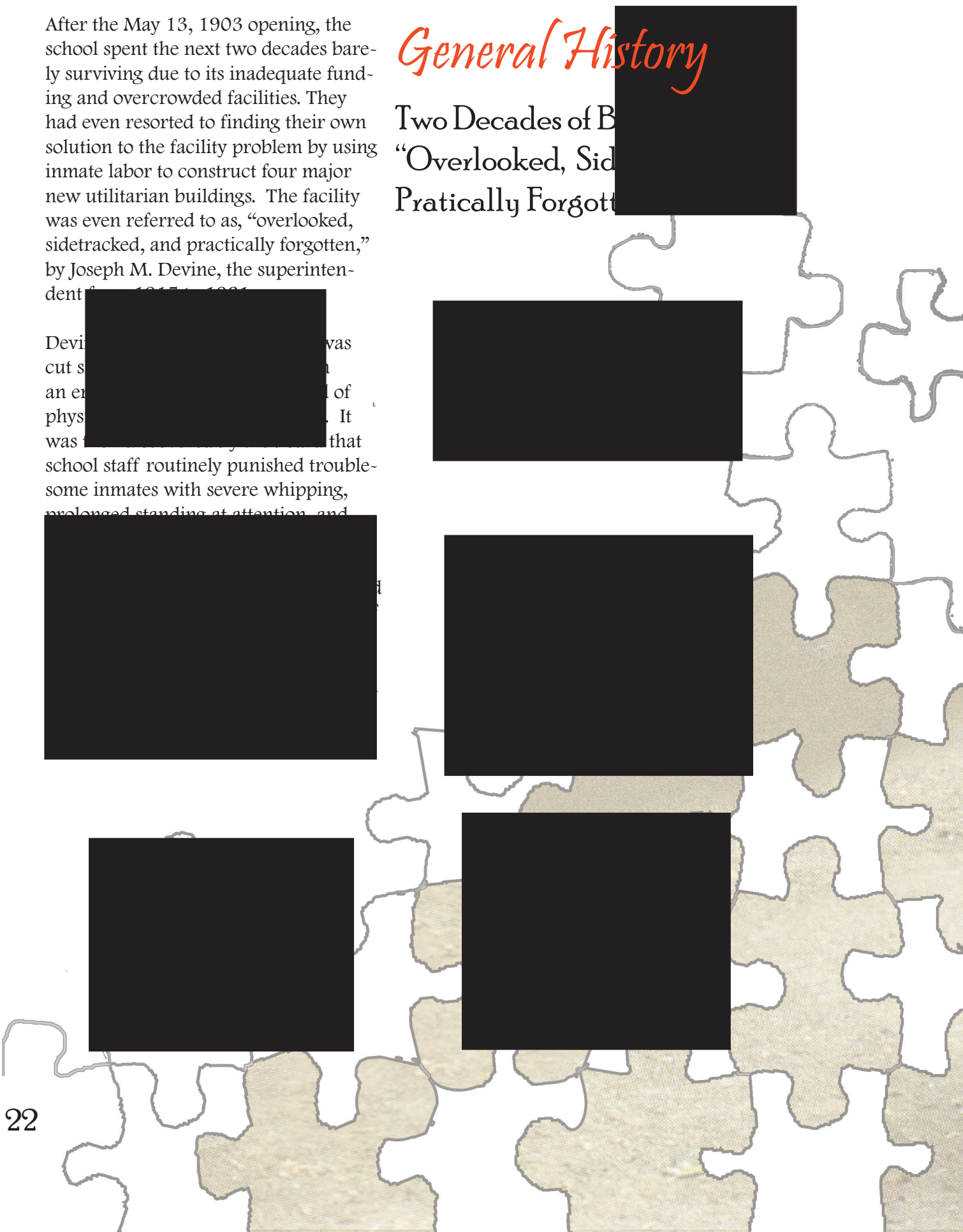
The North Dakota officials understood this reformed thinking to mean that the school's surroundings should also be as beautiful as possible. In 1910 Superintendent J.R. Brown stated that, "…beautiful surroundings have influence upon character for good." It was this type of progressive thinking, that led the school's board of trustees to hire Fargo architects George and Walter Hancock in 1901 to design the school's first building, later to be called the Main Building. It was a Romanesque Revival style two-and-one half story brick building that contained space for the superintendent, a steward, a janitor, and a dormitory for 40-50 inmates.

General History

Two Decades of B
"Overlooked, Sid
Pratically Forgott

After the May 13, 1903 opening, the school spent the next two decades barely surviving due to its inadequate funding and overcrowded facilities. They had even resorted to finding their own solution to the facility problem by using inmate labor to construct four major new utilitarian buildings. The facility was even referred to as, "overlooked, sidetracked, and practically forgotten," by Joseph M. Devine, the superintendent f

Devi was cut s an e of phys . It was that school staff routinely punished troublesome inmates with severe whipping, prolonged standing at attention, and



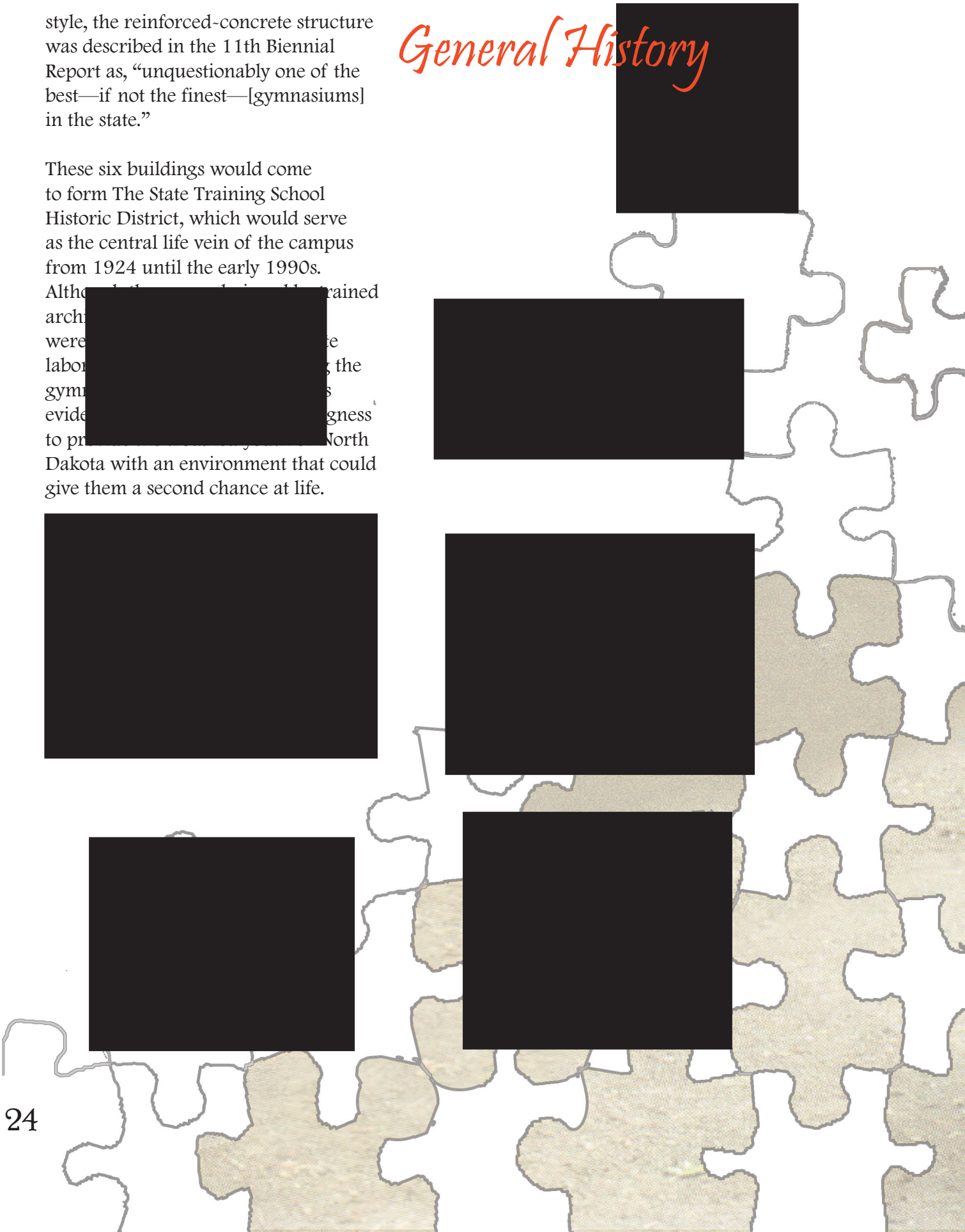
McClelland and the Building Boom

The 1920s was a period of great significance to the school's history beginning with a change in names to the North Dakota State Training School to help diminish the stigma that followed the juveniles upon their release. The next change would quickly follow when, from 1922 to 1929, under the new leadership of William F. McClelland, the school began a massive building campaign in which six new architecturally designed buildings were constructed. Five of these six buildings were partially or entirely designed by the Bismarck firm of Van Horn and Ritterbush. McClelland's heavy background in progressive social reform movements in New York and his education at Cornell University made him the ideal leader of such an intense campaign.

The first, and largest, of these buildings was the gymnasium. The original design was from the office of the Minneapolis engineer, Claude A. P. Turner, a pioneer in reinforced concrete that also designed the Liberty Memorial Bridge across the Missouri River between Mandan and Bismarck. After the initial material estimate the drawings were turned over to the office of Van Horn and Ritterbush in Bismarck. Being of the Spanish Mission

style, the reinforced-concrete structure was described in the 11th Biennial Report as, "unquestionably one of the best—if not the finest—[gymnasiums] in the state."

These six buildings would come to form The State Training School Historic District, which would serve as the central life vein of the campus from 1924 until the early 1990s. Altho[redacted]rained archi[redacted] were[redacted]te labor[redacted] the gymn[redacted]s evide[redacted]gness to pr[redacted]North Dakota with an environment that could give them a second chance at life.



Co-Education: the Girl Problem

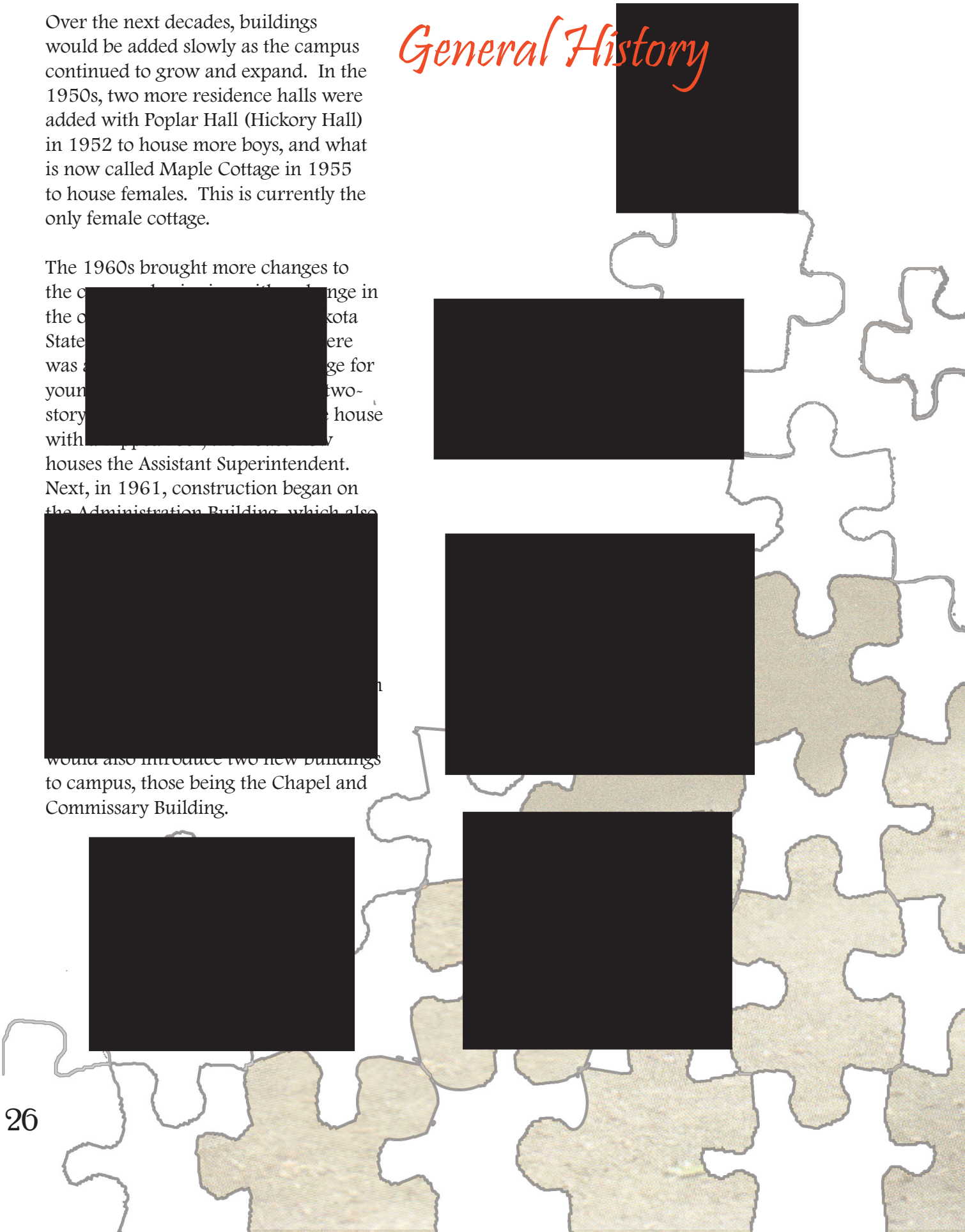
Throughout this beginning period of the school's history, it was one of only eight co-educational juvenile training facilities in the nation. The boys and girls were even housed together when the only dormitory was located in the Main Building from 1903 until 1910 when the first girls' dormitory was finished. As early as 1926 this girls' dormitory was over-crowded and viewed a fire trap, leading McClelland to lobby for an entirely separate girls' school located to the west of the main school campus. In the meanwhile, a new dormitory was built for the girls with the intention of it eventually being used to house boys. This dormitory named Devine Hall, was built as a replica of the newly constructed Dakota Boys' Dormitory, including the large sleeping rooms designed for boys opposed to single rooms deemed more appropriate for girls. The Girls' separate campus would never become a reality, and the girls would continue to be housed in separate buildings, but still on the main campus.

With the national economic depression that followed the 1929 stock market crash, construction at the school, like that of much of the nation, came to an abrupt stop. The campus did not see any significant building additions again until after the end of McClelland's term as superintendent in 1941.

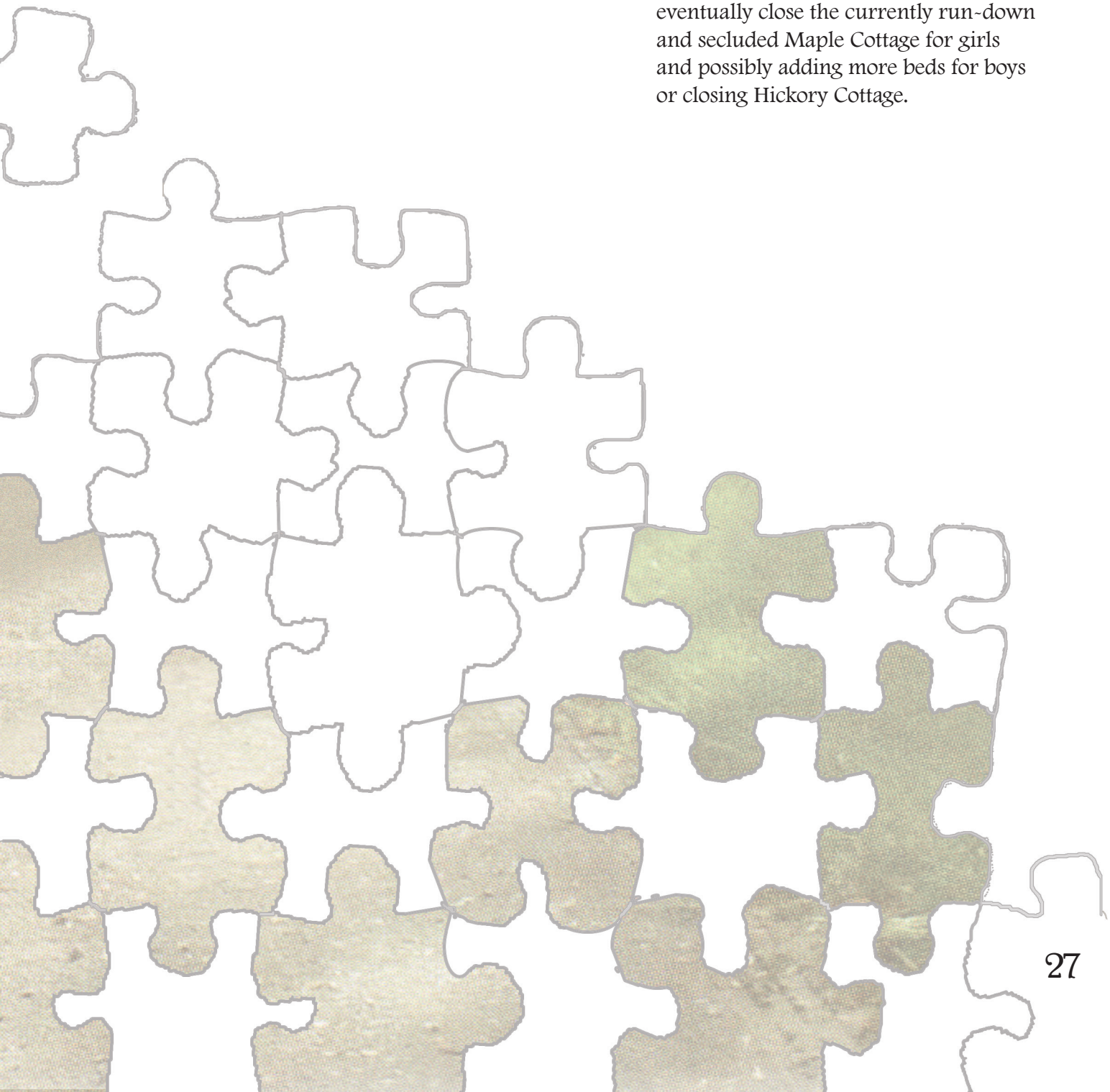
General History

Over the next decades, buildings would be added slowly as the campus continued to grow and expand. In the 1950s, two more residence halls were added with Poplar Hall (Hickory Hall) in 1952 to house more boys, and what is now called Maple Cottage in 1955 to house females. This is currently the only female cottage.

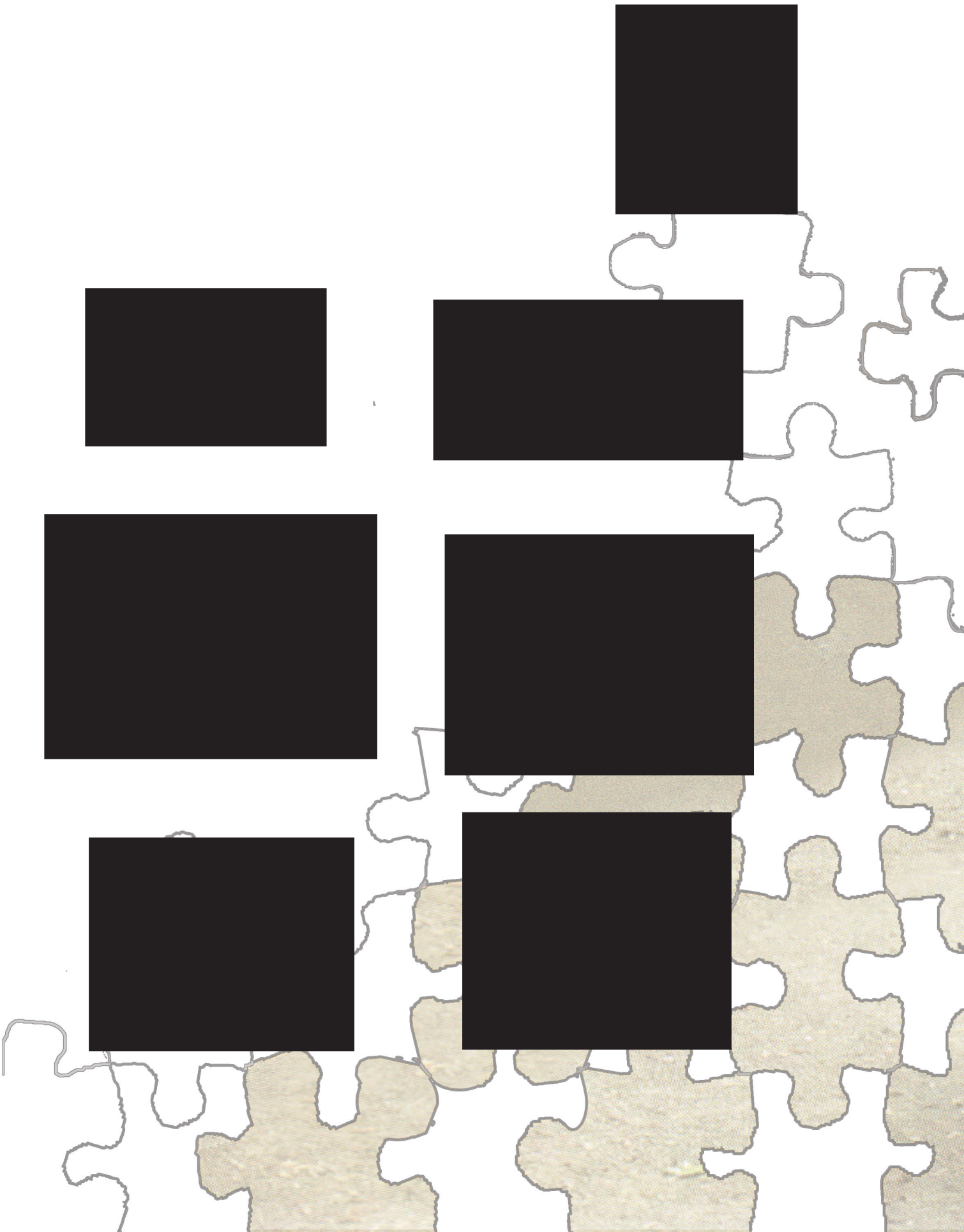
The 1960s brought more changes to the c nge in the c kota State ere was a ge for youn two- story house with houses the Assistant Superintendent. Next, in 1961, construction began on the Administration Building, which also would also introduce two new buildings to campus, those being the Chapel and Commissary Building.



The next significant building additions would not happen until the 1980s with the Superintendent's house built in1980 and Centennial Hall being built in 1989 to close the decade. With only an addition to Pine in 2001, the campus is currently in the "talking about" phase of adding a new multi-faceted building that would house both boys and girls. This building comes out of the need to eventually close the currently run-down and secluded Maple Cottage for girls and possibly adding more beds for boys or closing Hickory Cottage.



Project Description



Project Description

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Presently, NDYCC is in the process of implementing a new treatment entitled, Educating for Quality by Understanding Interpersonal Potential. EQUIP is a treatment program that is approached by focusing on cognitive restructuring, anger management, social skills, and social decision-making.

To further enable NDYCC's treatment theory to reach the next level of effectiveness, this thesis project will focus on adding another approach to the EQUIP treatment by including a focus on the intergration of programs

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Project Description

Spatial Eleme

The multi-faceted building will be incorporating four different components of the program at NDYCC. It will integrate residence, education, evaluation and treatment all with in the confines of one single building. Because each of these components has a different function, they will each require different major elements.

Residence:

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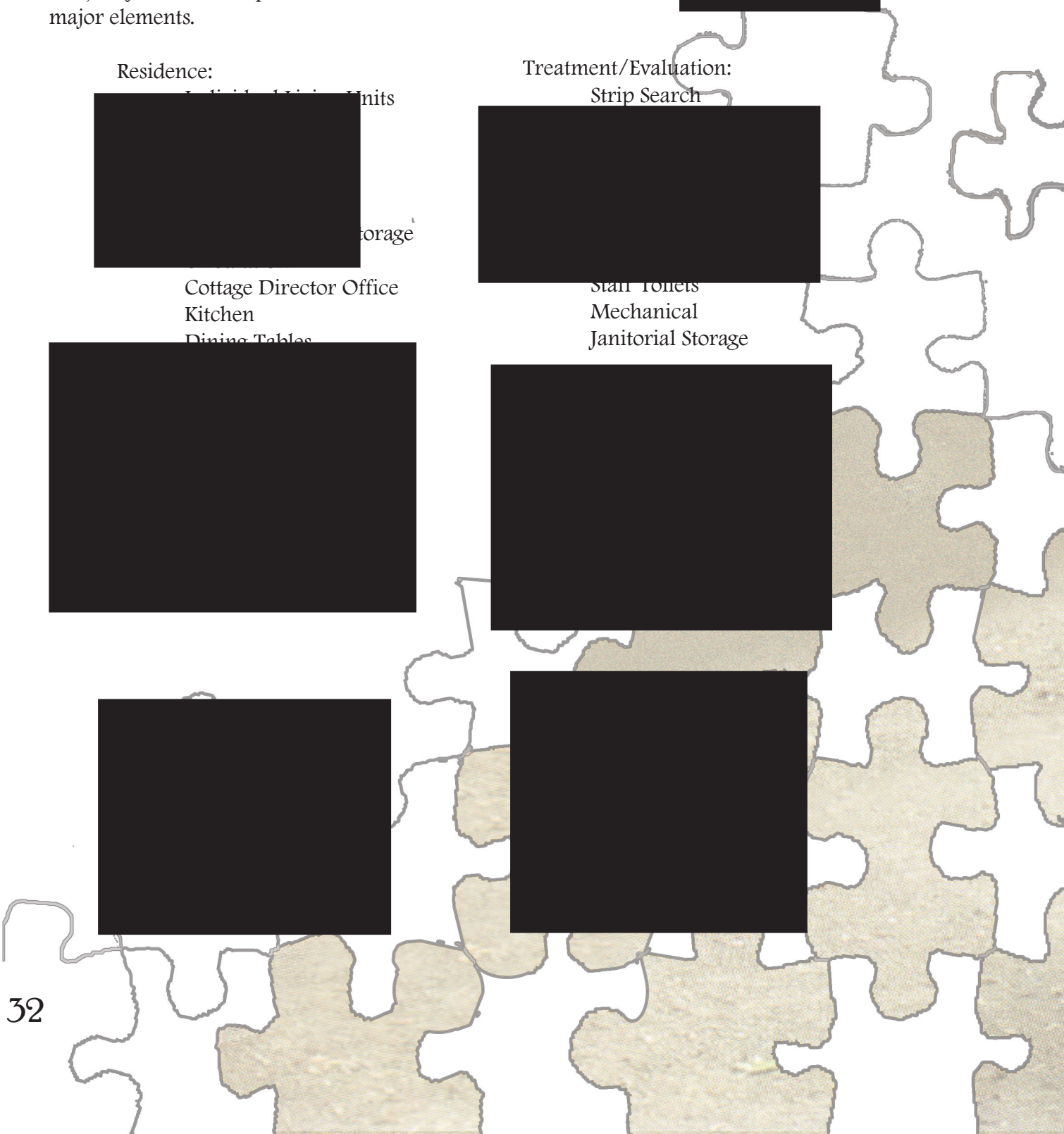
Cottage Director Office
Kitchen
Dining Tables

Treatment/Evaluation:
Strip Search

Staff Toilets
Mechanical
Janitorial Storage



[redacted]tion

Currently, the North Dakota Youth Correctional Center (NDYCC) is the state's only state-funded, secure juvenile correctional institution. Operating within the Division of Juvenile Services, it provides a secure detention and rehabilitation facility to the adolescents requiring the most restrictive environment, maximum personnel supervision, and provides varied programs to address delinquent behavior.

The client groups of this facility will differ from the users. The clients would [redacted]ns, such [redacted]ices and [redacted], which [redacted]he entire [redacted]nding is [redacted]h Dakota

Whereas, the users or user groups would be the people who use the facility on a day-to-day basis, such as the delinquent adolescents of North Dakota that have been placed at the facility and the administration staff, cottage staff, counselors, and other supporting personnel.

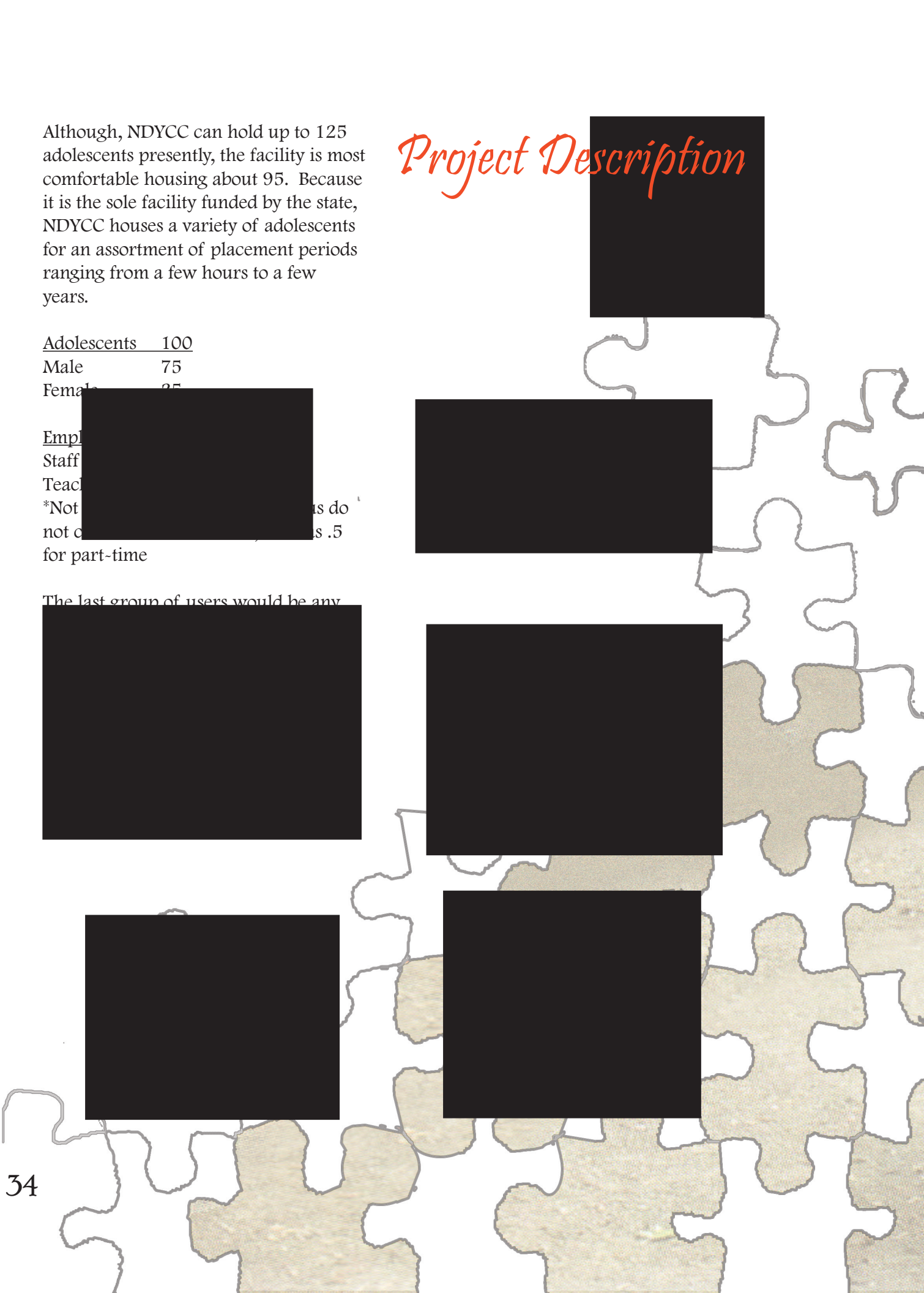
Project Description

Although, NDYCC can hold up to 125 adolescents presently, the facility is most comfortable housing about 95. Because it is the sole facility funded by the state, NDYCC houses a variety of adolescents for an assortment of placement periods ranging from a few hours to a few years.

Adolescents	100
Male	75
Fema[redacted]	[redacted]

Empl[redacted]
Staff
Teac[redacted]
*Not [redacted]s do not c[redacted]s .5 for part-time

The last group of users would be any [redacted]



[redacted]ogy

Through the implementation of design methods, correlations and connections between the multiple facets of this project should become apparent. The integration of the multiple functions that the campus will host play a major part in the planning of spaces. A full understanding of these functions in their current capacity is necessary in order to realize their full potential if given the ideal operating spaces.

Interviews with administrators, literature searches and analysis of case studies will lay the initial foundation [redacted]seach [redacted]rvation [redacted]ties [redacted]ory is [redacted] to use [redacted]ving [redacted] studies will need to be a thorough study of recently built, successful correctional centers that are designed with the current correctional theory in mind. Spatial correlations and connections will be discovered through other design methods such as Interaction Matrix, Bubble Diagrams, Venn Diagrams, Brainstorming, and Interaction Nets. It is through the application of these discovered correlations and connections to the planning and designing of the new campus masterplan, that the ideal rehabilitative [redacted]

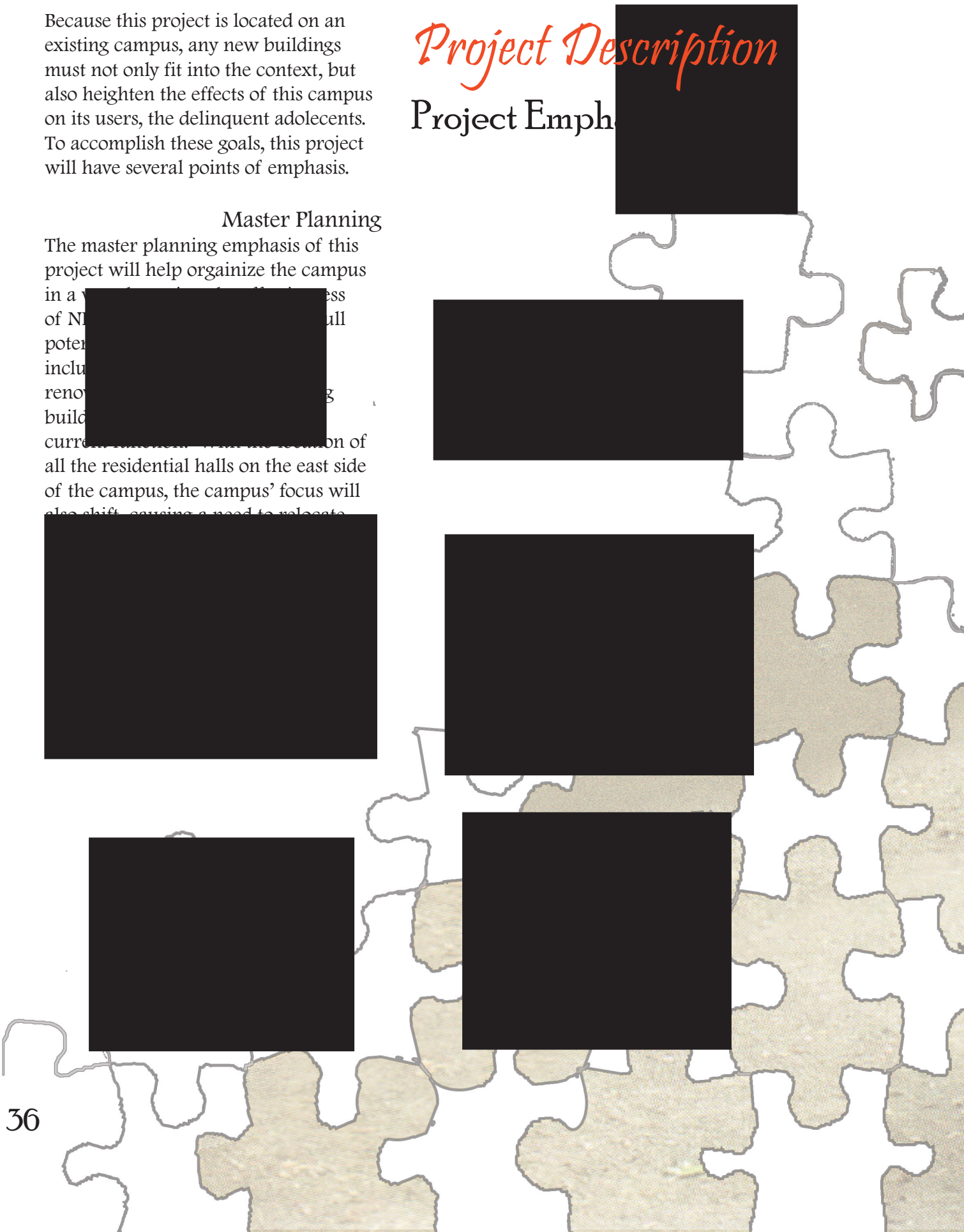
Project Description

Project Emph[redacted]

Because this project is located on an existing campus, any new buildings must not only fit into the context, but also heighten the effects of this campus on its users, the delinquent adolecents. To accomplish these goals, this project will have several points of emphasis.

Master Planning

The master planning emphasis of this project will help orgainize the campus in a [redacted]ess of N[redacted]ull poter[redacted] inclu[redacted] reno[redacted]g build[redacted] curre[redacted]n of all the residential halls on the east side of the campus, the campus' focus will also shift, causing a need to relocate



Integration of Multiple Facets

The new master plan will be addressing the emphasis of clearly organizing the campus into three distinct sections, including residential, educational, and incentive programs. The careful intergration of these three programs will heighten the effectiveness of the rehabilitation program which is intergrated into all programs. The space planning of these multiple facets will enhance the rehabilitation experience of the adolescents placed within it.

Security

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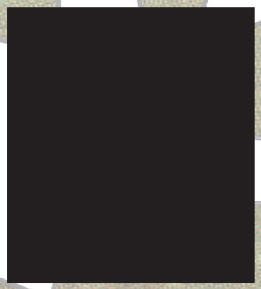
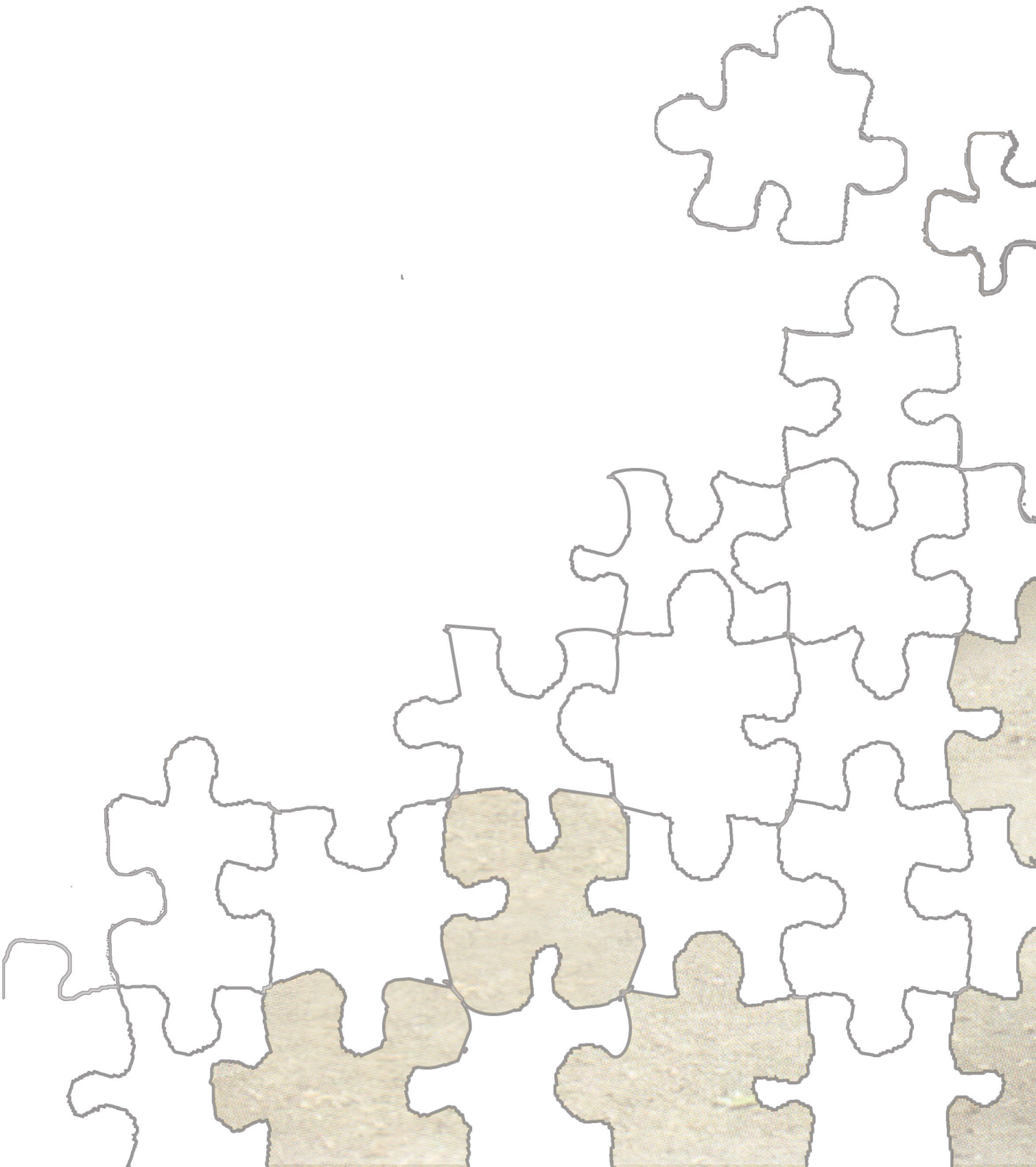
buildings, this issue will also need to be readdressed. The need for a new gated main entrance will be one of results of this readdress.



Site Analysis



Site Analysis

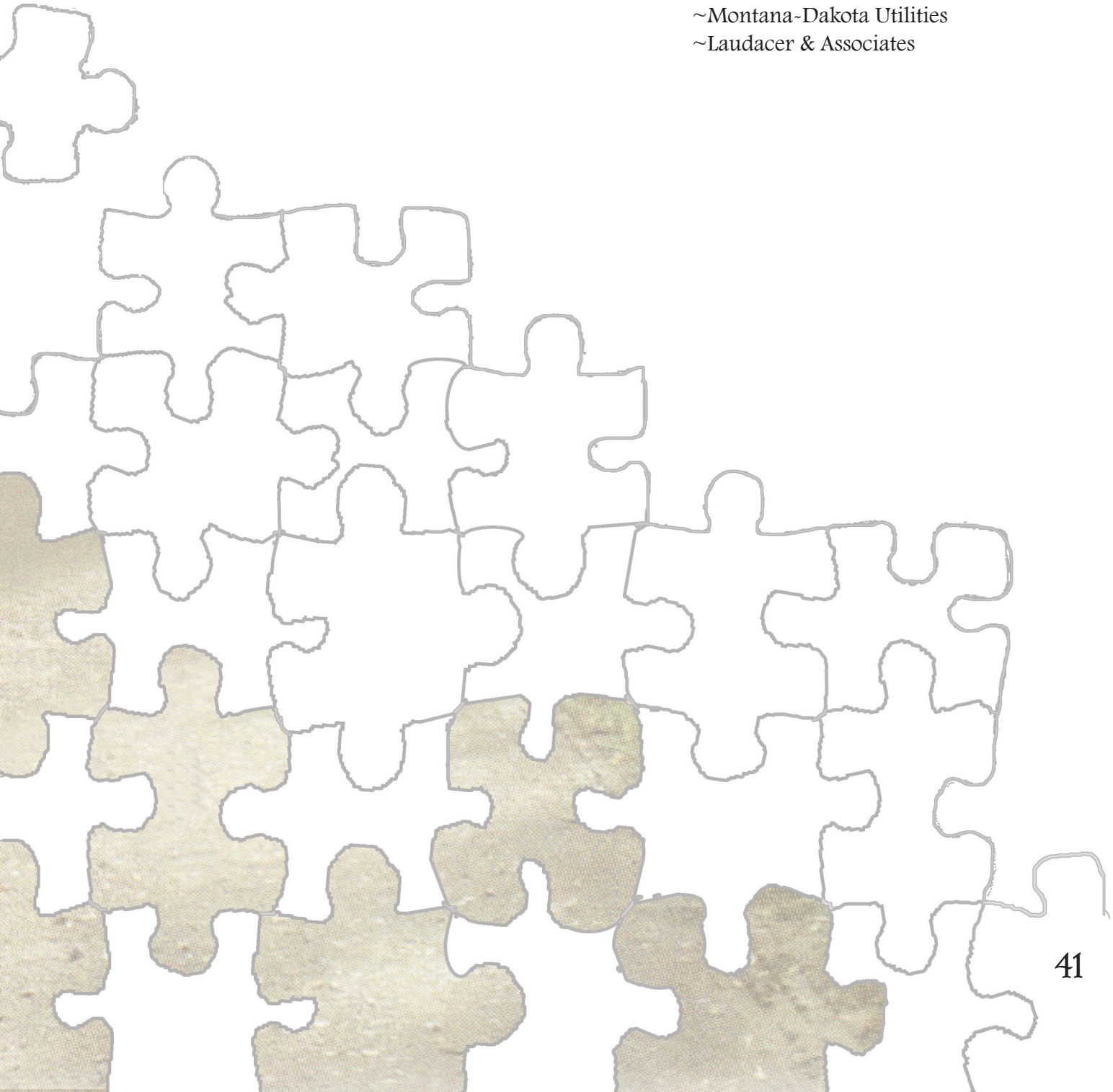
Economic Base

Agriculture

Main crops: Wheat, Barley, Corn
Livestock: Cattle

Major Employers:

~Burlington Northern Santa Fe Railroad (formerly Northern Pacific)
~Tesoro Oil Refinery (formerly ~Amoco Oil Refinery)
~Mandan Public Schools
~Cloverdale Meats
~Montana-Dakota Utilities
~Laudacer & Associates



Site Analysis

Demographics

Demographics are of Mandan, ND, which is the nearest town, as the specific demographics are not available specifically on the adolescents of NDYCC. This is due in part as the population is constantly changing and the adolescents are considered residents in the town in which their legal guardians claim. Many of the staff members would be citizens of Mandan, so they would be a part of these demographics.

Population:	16, 718
House Hold Average:	2.63
Median Age:	36.0
Average Household income:	$38,182
Median Income:	$16,295

Racial Make-up:

White	94.5%
Native American	3.9%

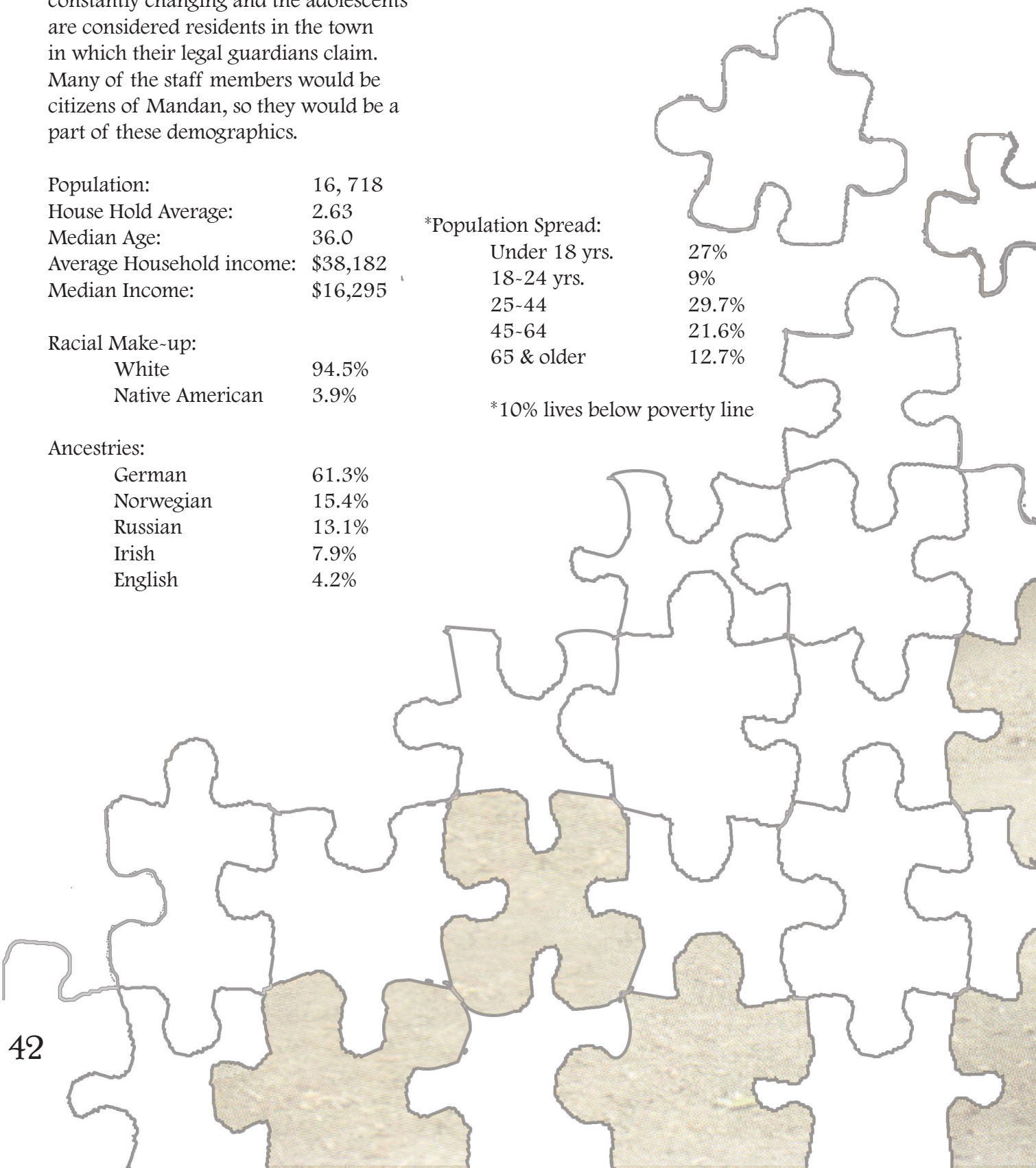
Ancestries:

German	61.3%
Norwegian	15.4%
Russian	13.1%
Irish	7.9%
English	4.2%

*Population Spread:

Under 18 yrs.	27%
18-24 yrs.	9%
25-44	29.7%
45-64	21.6%
65 & older	12.7%

*10% lives below poverty line



Local History

The city of Mandan's history can be traced to the significant contributors in the 1870s. Five miles south of the current site of Mandan would be the home to two infantry companies with the role of protecting the construction of the Northern Pacific Railroad, which had reached the Missouri River by 1873 bringing with it over 100,00 people to the territory. Also, in 1873 Fort Abraham Lincoln was authorized as a cavalry post. Throughout the 1870s it was occupied by as many as 655 officers and enlisted men, with the most famous of these being Col. George Armstrong Custer. At the fort, Custer commanded three companies of the Sixth and 17th Infantry, as well as six companies of the Seventh Cavalry. After the broken treaty upon the discovery of gold in the Black Hills of South Dakota, Custer marched out to Montana with the Seventh Cavalry in 1876, to the historic battle of the "Little Big Horn."

Figure 4: Col. George Armstrong Custer

Figure 5: Reconstructed home of Col. George Custer

Site Analysis

Local History

Two years later in 1878, Mandan was named the county seat of Morton County which ran from the Missouri River to the Montana border at the time. The name Mandan was derived from the Dakota Indian word, "Mantani," which means "people on the bank." It was in 1879 that the railroad actually crossed the Missouri and brought with it over 100 railroad employees. Following the arrival of the railroad was a population explosion to 2,500 by 1883.

Along the way, Mandan would survive several set backs, some caused by Mother Nature. Lying in the low area between two rivers, the Missouri River and the Heart River, would bring at least three devastating floods in Mandan's early history. After the most damaging flood of 1943, Mandan would erect an earth dike with flood gates around the entire south and east sides of the city that were prone to continual future flooding. Another set back was the major population loss after an Indian scare just prior to Sitting Bull's death in December of 1890.

Figure 6: Prior to bridge, forged river with flats

Just as there were setbacks, there were also major contributors to the success of Mandan. Two of the first were the completion of the Missouri River vehicle bridge in 1922 and the Northern Pacific Railroad Depot in 1929, both of which still exist. The year of 1954 brought the key additions of the Amoco Oil Refinery and the Montana-Dakota Utilities Power Plant north of Mandan. These two economic contributors brought many jobs and new families to Mandan and a need for more housing and schools. This is evidenced through the new construction of four grade schools and a high school all in the 1960s. Also, the decade saw the blazing of the countryside with the new Interstate 90 and a new bridge across the Missouri River. Through all of this, Mandan not only survived, but it has flourished.

Figure 7: Missouri River Train Bridge from Mandan to Bismarck

Site Analysis

Major Landmarks

The Bismarck-Mandan area has several major landmarks. One of the most noteable would be the state capital building in Bismarck. Standing 18 stories tall, it was the tallest standing building in all of North Dakota until more recent years. From the eighteenth story observation deck, one can see over 50 miles on a clear day. Another landmark of note would be the reconstructed Fort Abraham Lincoln State Park and Indian Earth Lodges. The block house on top the hill offer a spectacular view of the Missouri River. There are also four bridges that connect Mandan and Bismarck, one railroad and three vehicular.

Figure 8: ND State Capital Building, Bismarck, ND

Figure 9: Fort Lincoln Block Houses

Figure 10: On-A-Slant Indian Earth Mounds

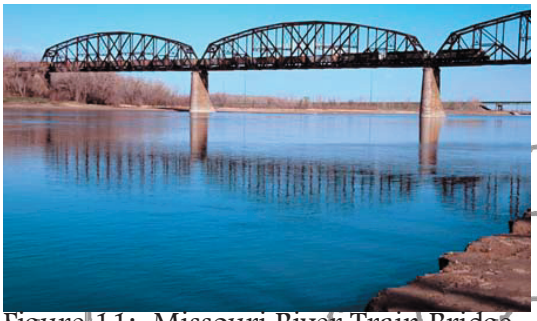


Figure 11: Missouri River Train Bridge

Environmental Issues

Figure 12: Record snowfall in Blizzard of 1966

The campus of NDYCC is located just below and to the of north the bluffs of the Heart River. This beautiful backdrop needs to be preserved. Because the specific location of the new facility is on the southern end of the campus, it will be vital to not hinder the breathtaking views that the campus already has. Along with fitting into the natural context, it will also be important to design a building that fits into or compliments the historic context. The design of the new building should not destroy the integrity of the historic context.

Lastly, the environmental issue of snow loads will need to be considered in the design of the structure and roof. Through interviews with the Superintendent, Darrel Nitschke, it has been made apparent that the use of sloped roofs is preferred over flat roofs. In this region, snow fall in inches on average is 42 inches per year.

Site Analysis

Site Area

The main NDYCC campus covers a total of 1,625,000 square feet, or about 27.3 acres. The school also owns additional farmland to the west of the main campus.

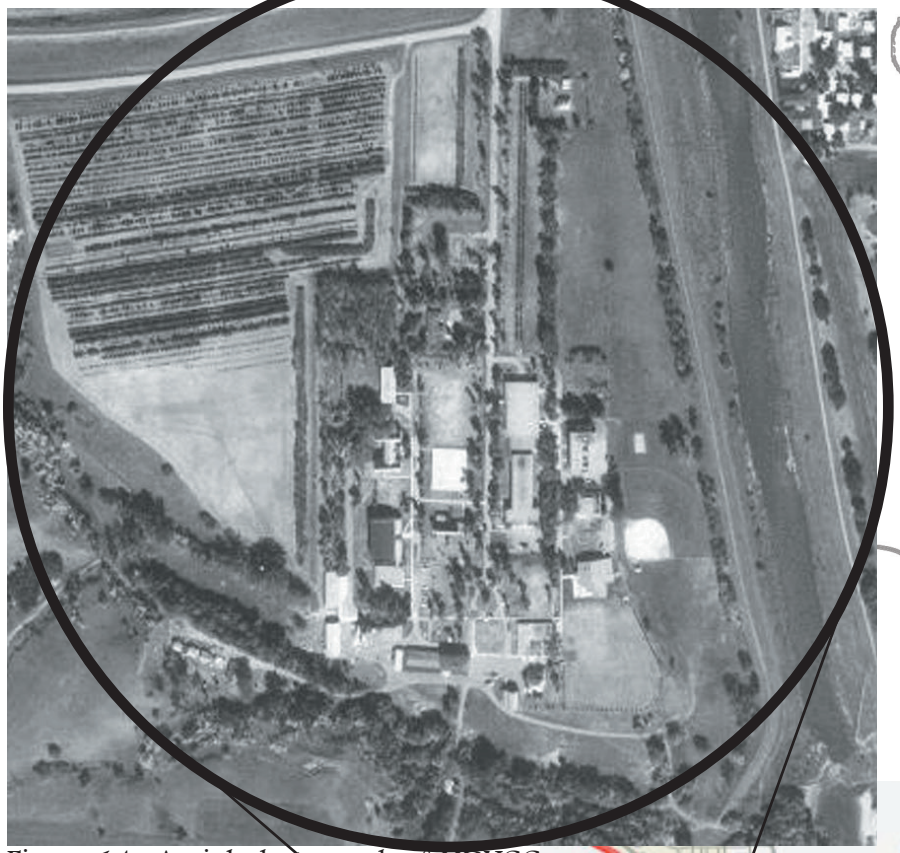


Figure 14: Aerial photograph of NDYCC.

Figure 13: Map of Mandan streets.

Specific Site Location

The southeast corner of the campus, around 63,500 square feet, was chosen for this specific new building, which is currently used as a soccer field. NDYCC has expressed a need to relocate the main campus entrance to this area and would like the new building to act as a welcoming agent and security control for the rest of the campus. This site will also be locating all the juvenile living units to one side of the campus, leaving the other side to house supporting buildings.

Figure 15: Aerial photograph of NDYCC campus.

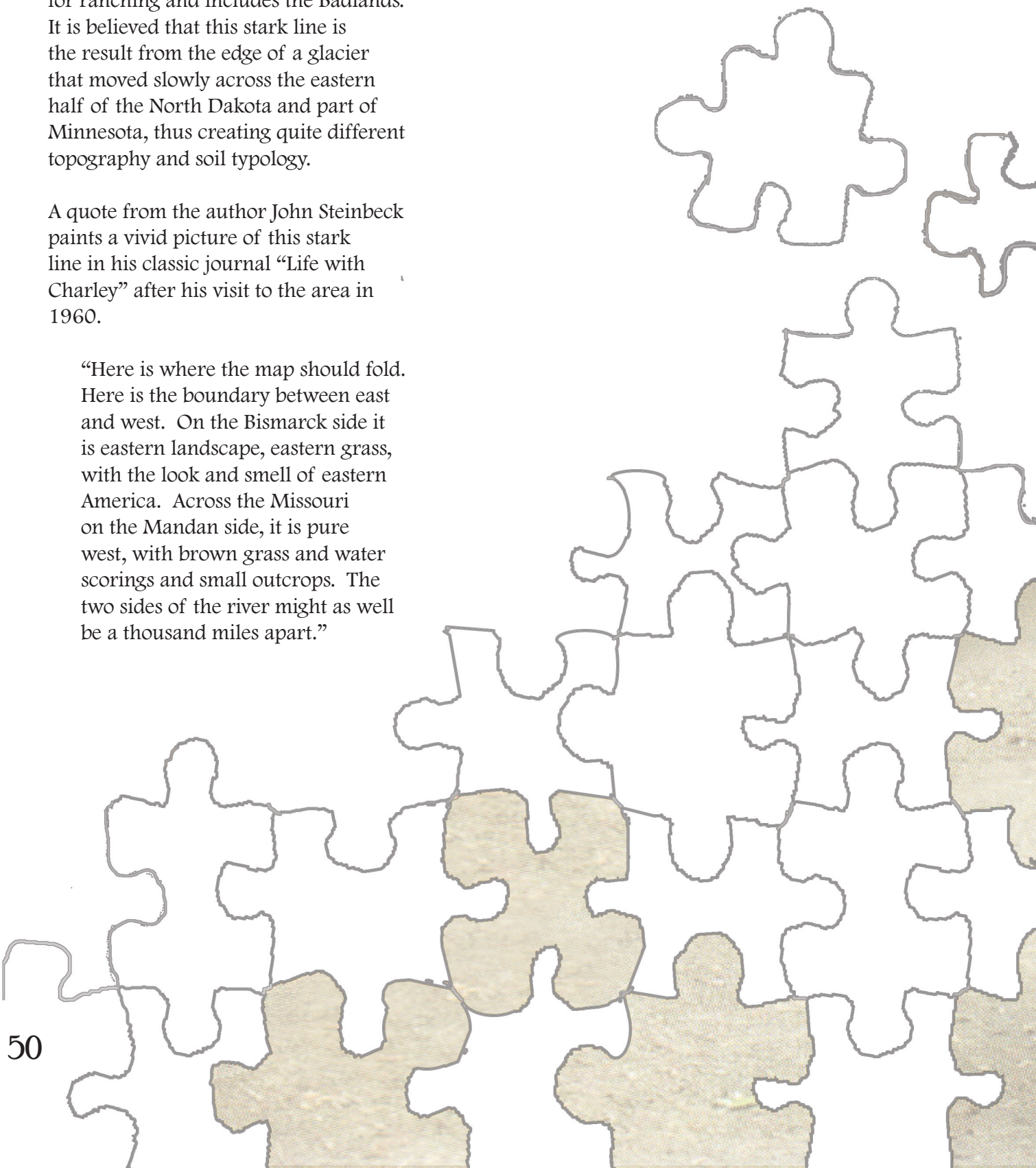
Site Analysis

Geology

The entire Missouri River valley is considered to be the boundary between North Dakota's level, fertile farming land to the east and the rolling hills and bluffs to the west, which is ideal for ranching and includes the Badlands. It is believed that this stark line is the result from the edge of a glacier that moved slowly across the eastern half of the North Dakota and part of Minnesota, thus creating quite different topography and soil typology.

A quote from the author John Steinbeck paints a vivid picture of this stark line in his classic journal "Life with Charley" after his visit to the area in 1960.

> "Here is where the map should fold. Here is the boundary between east and west. On the Bismarck side it is eastern landscape, eastern grass, with the look and smell of eastern America. Across the Missouri on the Mandan side, it is pure west, with brown grass and water scorings and small outcrops. The two sides of the river might as well be a thousand miles apart."



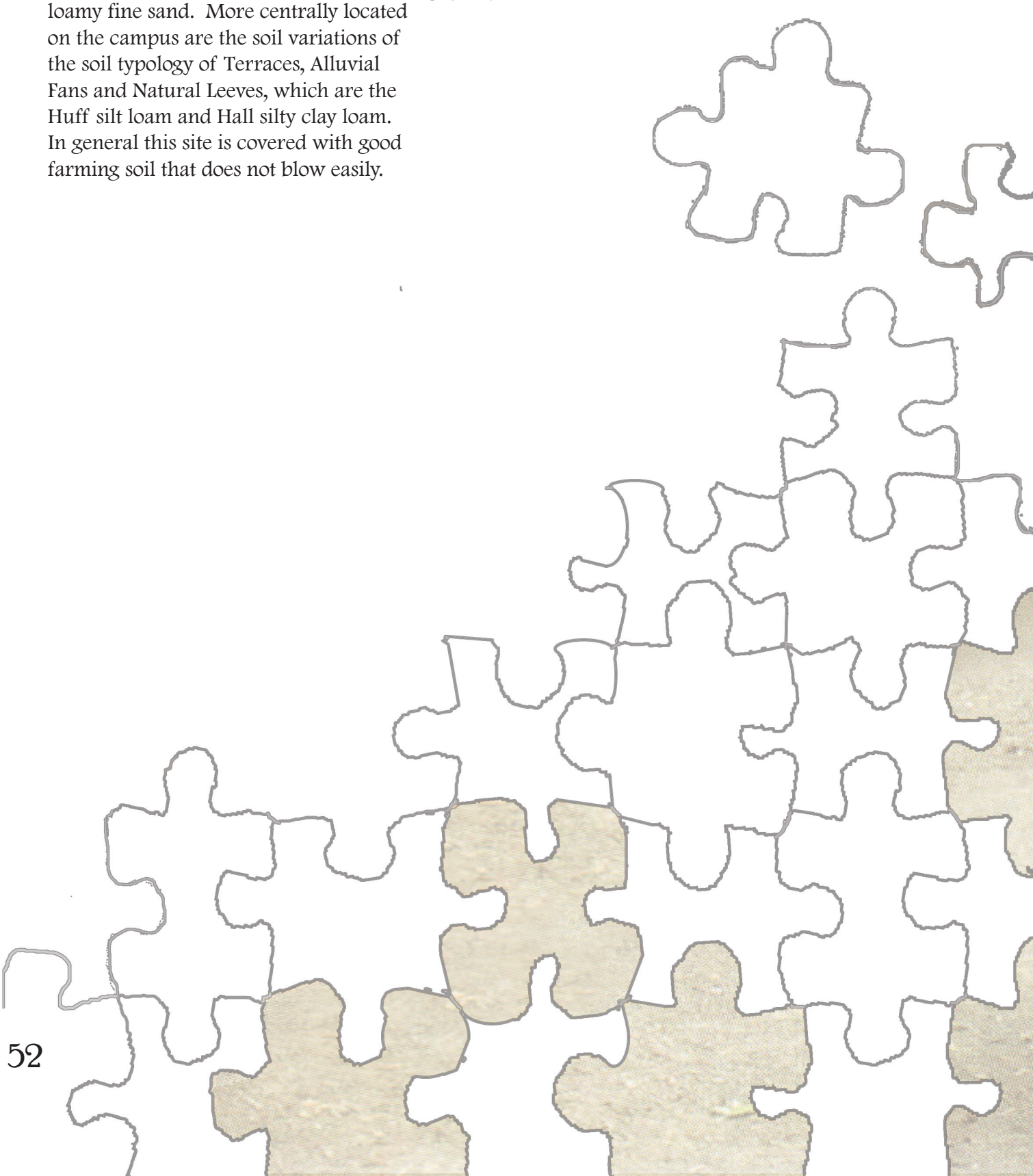
Site Topography

With almost the entire campus at an elevation of 1650 feet above sea level, this site has relatively consistent topography. The exception to this would be the earth dike that seperates the campus from the Heart River. This eathen dike has protected the campus on many occassions from flooding before the Heart Butte Dam was built up stream on the Heart River.

Site Analysis

Soils

There are six variations of two different soils types. Nearest the river, the Bottomlands soil variations are Banks very fine sandy loam, Banks silty clay, Banks silty clay, poorly drained, and Banks loamy fine sand. More centrally located on the campus are the soil variations of the soil typology of Terraces, Alluvial Fans and Natural Leeves, which are the Huff silt loam and Hall silty clay loam. In general this site is covered with good farming soil that does not blow easily.



Site Hydration

The site hydration is not a significant issue as the campus of NDYCC is mostly covered with good soils that absorb water. The soil only has problems absorbing when large amounts of rain fall in short amounts of time. Building, parking lot, and road runoff is also not issue as the campus is mostly large amount of grass vegetation and trees that absorb the rain and prevent erosion.

Total Annual Precipitation: 16”
Total Annual Snow Fall: 20”

Site Analysis

Vegetation

The native vegetation is primarily blue grama with niggerwool intermixed on the sandier parts and western wheat-grass on the heavier and finer textured areas. Other forms of vegetation would include the deciduous tree lined entry road and multiple other coniferous trees.

Figure 16: Tree lined entrance road.

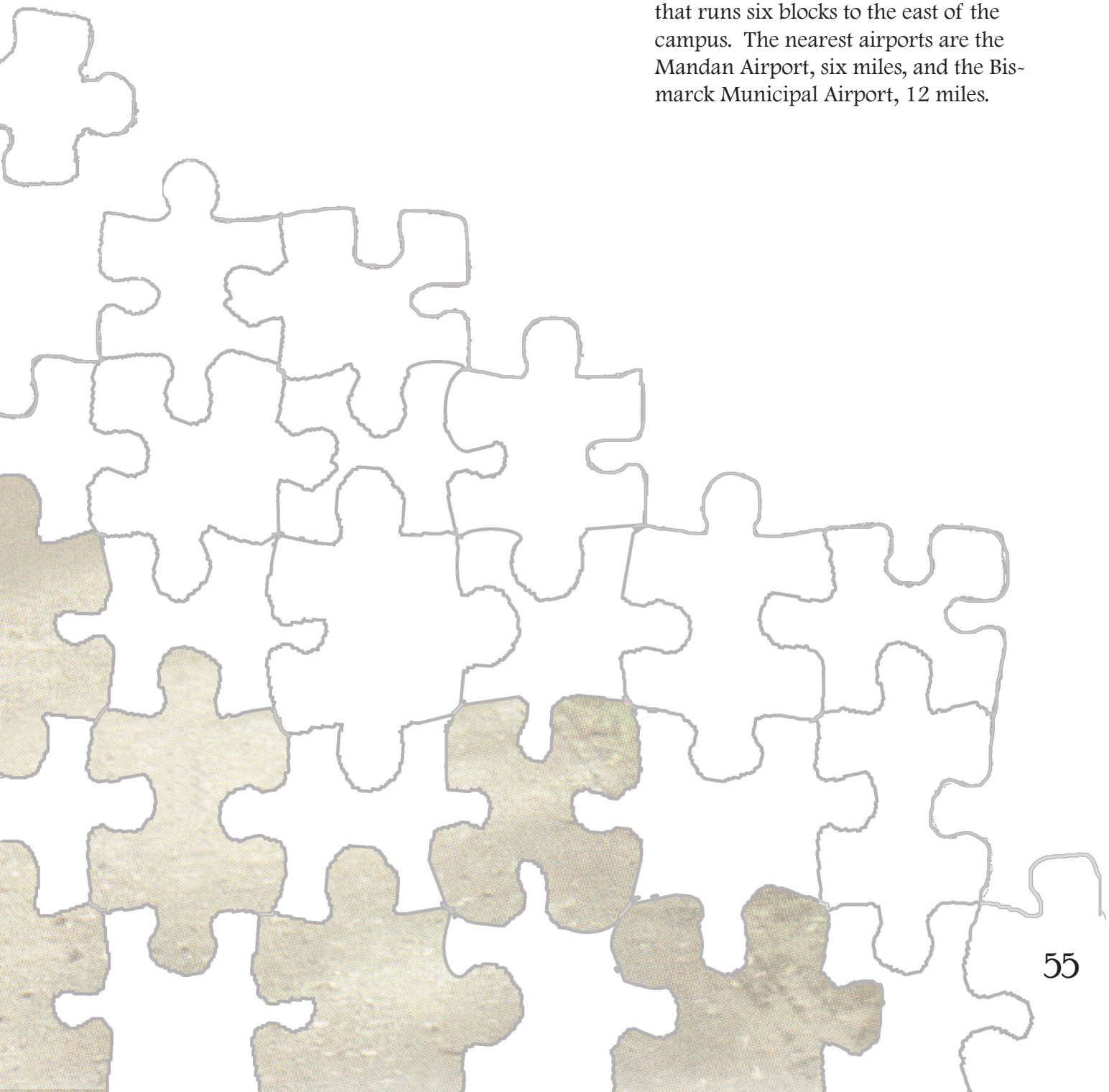
Figure 17: Blue grama grass.

Figure 18: Blue grama grass.

Transportation Linkages

The campus of NDYCC is connected to the west end of Main Street, which was also the old US Highway 10. The south entrance road to the campus winds along the buff and is connected to Highway 6, which runs south of Mandan to the South Dakota Border.

The nearest major transportation system is a Capital Area Transportation Route that runs six blocks to the east of the campus. The nearest airports are the Mandan Airport, six miles, and the Bismarck Municipal Airport, 12 miles.



Site Analysis

Views

Figure 19: Current site of soccer field, looking south east.

Figure 20: Centennial Hall Dining Center.

Figure 21: Current soccer field, looking east.

Solar Orientation

With geographical coordinates of 46 degrees and 46 minutes North, and 100 degrees, 55 minutes West, this area is subject to longer hours of daylight in the summer months and limited hours during the winter months.

Site Analysis

Weather/Climate Data

Average weather

Based on data reported by over 4,000 weather stations

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average temp. (°F)	10.0	17.2	28.5	42.7	55.7	64.6	70.2	68.7	57.3	44.7	27.9	15.1
High temperature (°F)	20.4	27.2	38.6	54.4	67.9	76.5	82.8	81.9	70.5	57.3	37.8	25.0
Low temperature (°F)	-0.5	7.2	18.4	31.0	43.4	52.6	57.4	55.4	44.1	32.0	18.0	5.2
Precipitation (in)	0.4	0.4	0.6	1.5	2.4	2.9	2.9	2.0	1.6	1.4	0.6	0.4

Figure 22: Average Weather, National Weather Service.

Normal Climate

Based on data reported by main weather stations

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Days with precip.	8	7	8	8	10	12	9	8	7	6	6	7
Wind speed (mph)	10.0	9.9	10.9	11.9	11.6	10.4	9.2	9.4	9.9	10.0	9.9	9.5
Morning humidity (%)	76	79	81	79	79	84	84	83	82	79	81	79
Afternoon humidity (%)	71	70	66	55	53	57	53	52	54	55	67	72
Sunshine (%)	53	53	58	58	61	64	73	72	65	58	43	47
Days clear of clouds	7	6	6	6	6	7	11	12	10	9	6	7
Partly cloudy days	8	8	8	9	10	10	13	11	9	8	7	7
Cloudy days	17	15	17	15	14	12	7	8	11	14	17	17
Snowfall (in)	7.8	7.0	8.5	4.1	0.9	0.0	0.0	0.0	0.2	1.9	7.0	6.9

Figure 23: Normal Climate, National Weather Service.

Prevailing Winds

Like most Midwest regions, the prevailing winds come from the northwest during the colder winter months of November, December, January, and February. During the warmer spring and summer months of March, April, May, June, July, August, September, and October, the prevailing winds come from the southeast and northwest.

Average Wind Speeds

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Wind speed (mph)	10.0	9.9	10.9	11.9	11.6	10.4	9.2	9.4	9.9	10.0	9.9	9.5

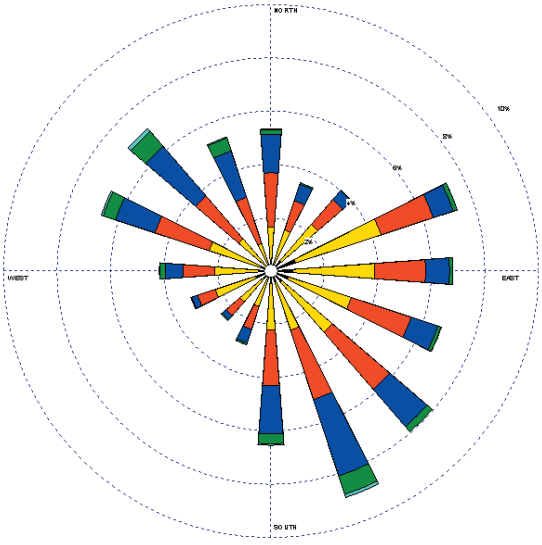


Figure 23: Wind Rose, July.

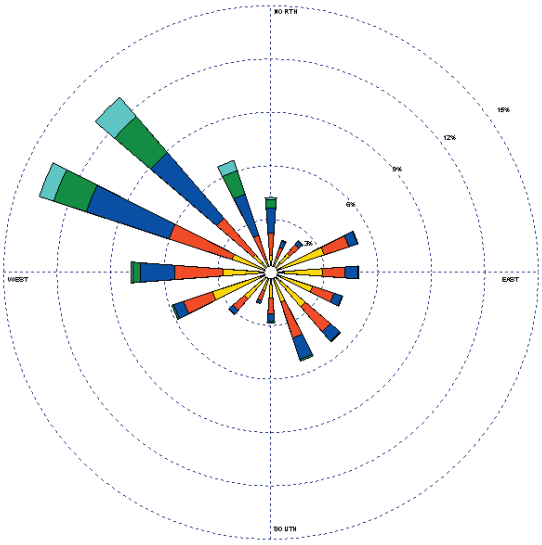


Figure 24: Wind Rose, January.

Site Analysis

Existing Structures

At present, the campus consists of the following existing structures: Maple Hall (1955), Devine Hall (1928), Hickory Hall (1952), Pine Cottage (1963), Brown Cottage (1963), Gymnasium (1922)/Swimming Pool (1975), Centennial Hall (1989), Administration Building/School (1961), Vocational Education (1981), Chapel (1964), Heating Plant (1907), two Maintenance Buildings (1957 & 1964), Superintendent House (1980), and Assistant Superintendent House (1920s). The entire campus is listed as a Historic District on the Secretary of Interiors Register of Historic Places, with the Gymnasium and Devine also listed indivually.

Figure 25: Front of Devine.

Figure 26: Front of Devine.

Figure 29: Gymnasium.

Figure 28: Gymnasium.

Figure 27: Back of Devine.

Figure 30: Brown Cottage.


Figure 31: Pine Cottage.


Figure 32: Maple Cottage.


Figure 33: Hickory Cottage.

Site Analysis

Existing Structures

Figure 34: Chapel.

Figure 35: Carpenter Shop.

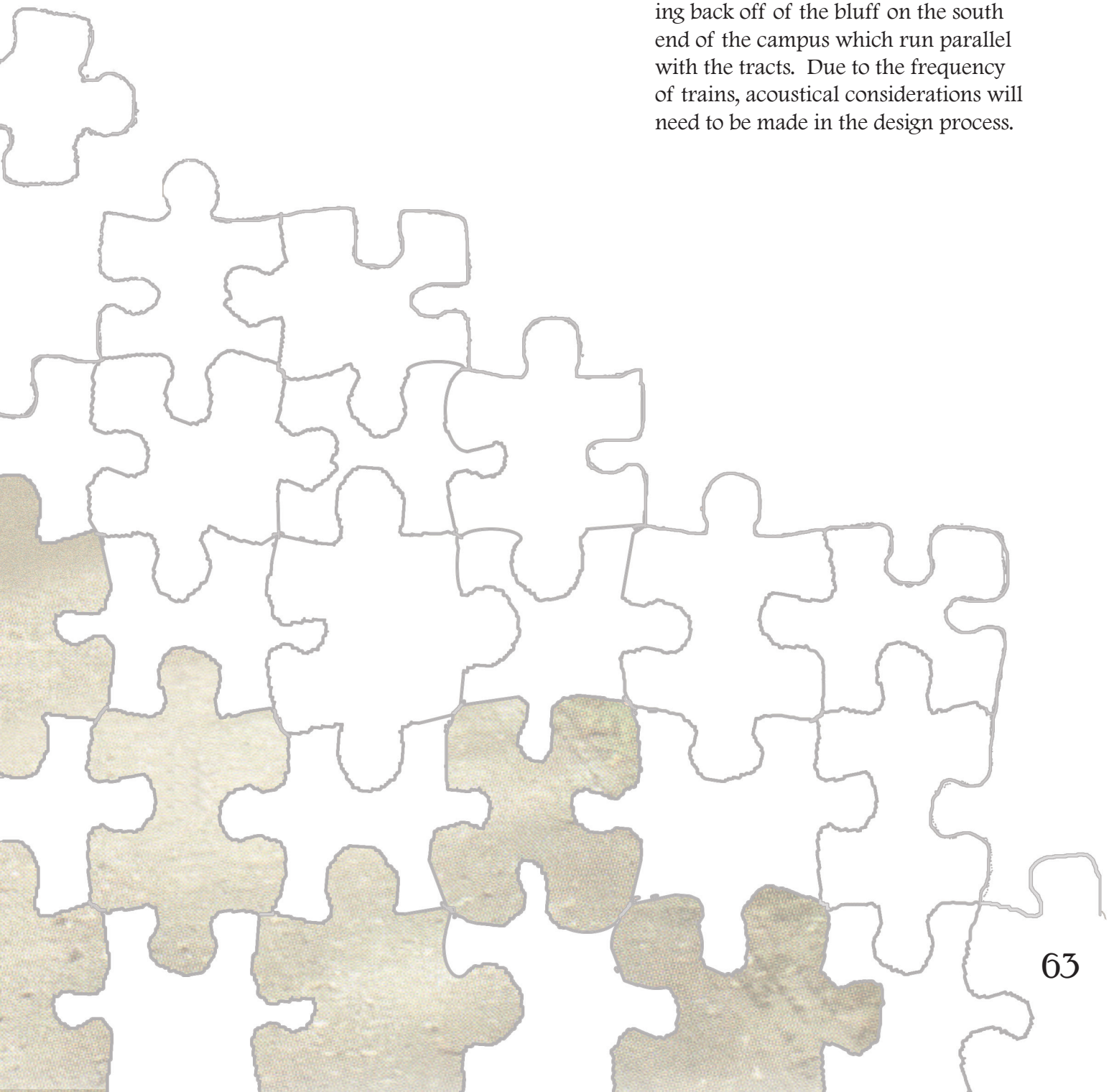
Figure 36: Powerhouse.

Figure 37: Front of Centennial Hall.

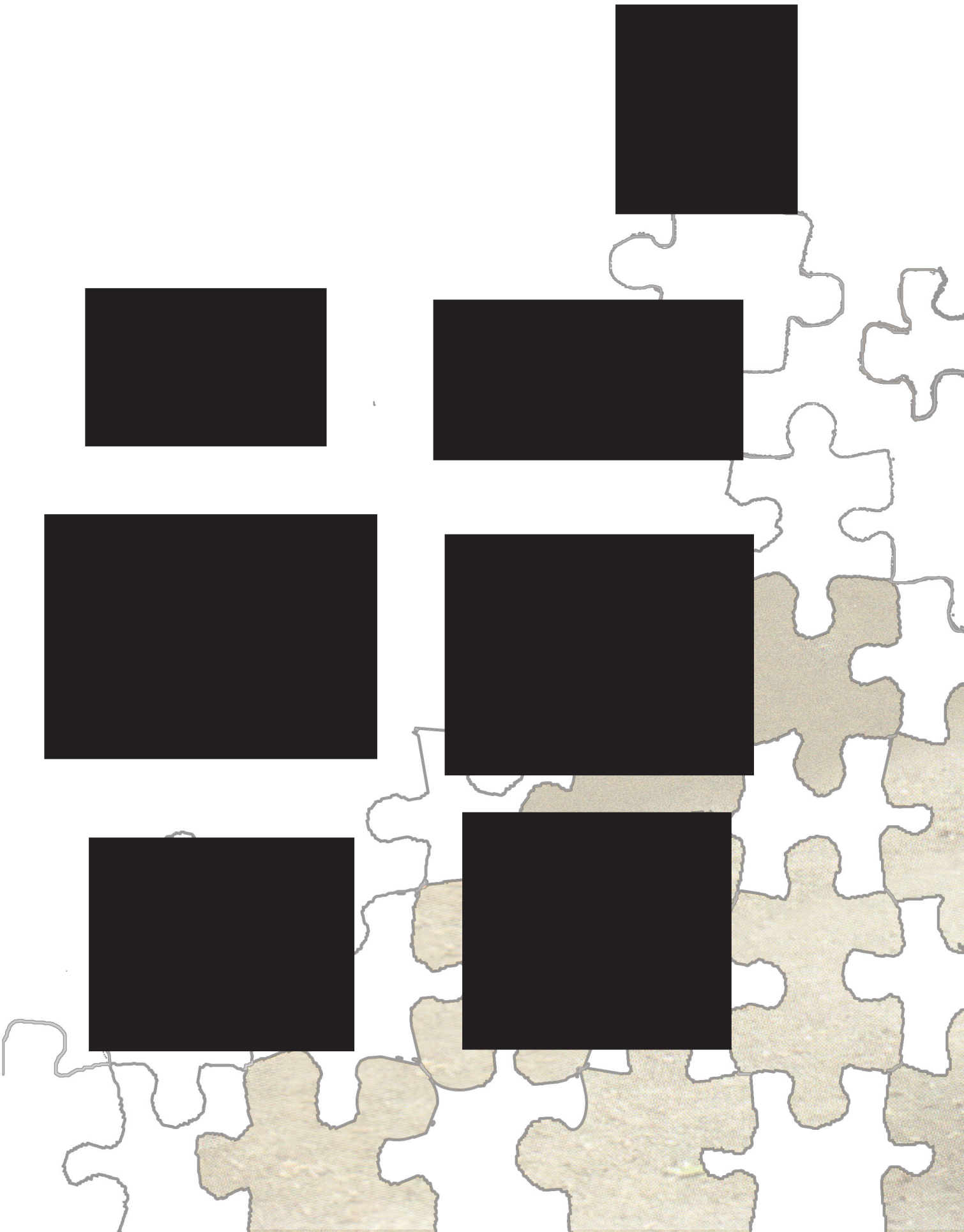
Figure 38: Front of Administration.

Acoustical Environment

One of the most significant disruptors to the acoustical environment would be the Railroad train car changing yard located about ½ mile to the east of NDYCC campus. The cross bars at the railroad crossing just at the immediate north end of the campus is another result in of being in such close proximity to the tracts. All of this noise is magnified due to the sound waves bouncing back off of the bluff on the south end of the campus which run parallel with the tracts. Due to the frequency of trains, acoustical considerations will need to be made in the design process.



Case Studies



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Case Studies

Direct Observation-Denver

Ridge View Academy

Overview

The Ridge View Academy is a private-public youth correctional center that chooses its candidates based on their fit within their programs. Placing a high emphasis athletics, youth are referred to as student athletes, and not juveniles.

The center offers youth many ways to retool, and retrain so when they re-enter society, they can be successful and upstanding citizens that do no return to the system. All their programs place a high emphasis on respect, positive reinforcement, and team work to keep everyone moving

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Location:

Pueblo, CO

Institution:

State of Colorado Youth Offender System

Overview

The Youth Offender System in Pueblo,

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reduced to six years at YOS. If the term is successfully fulfilled, the adult sentence is withdrawn.

The facility had completely seperate buildings for males and females, as they had different programs to complete. The total female poplution was 15, with about 175 males.

Oberservations:

-Pedestrian camp

-Very High Secuit

-Low priority on r

-"Prison-like"

[redacted]

Case Studies

Eastern Kentu
Correctional

Location:

West Liberty, Kentucky

Design/Architect:

Desig

1. T s, separated b
2. Se or housing u
3. La , with efficie
4. H re subdivisio
5. Housing mechanical equipment rooms access from behind units.
6. Housing and support buildings form intimate controllable passive activity spaces.

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Population: 1123: 1024 single cells-
medical; 48-beds minimum;
48 cells-maximum

Housing: One, 128 cells per control, two stac

Staff: population c

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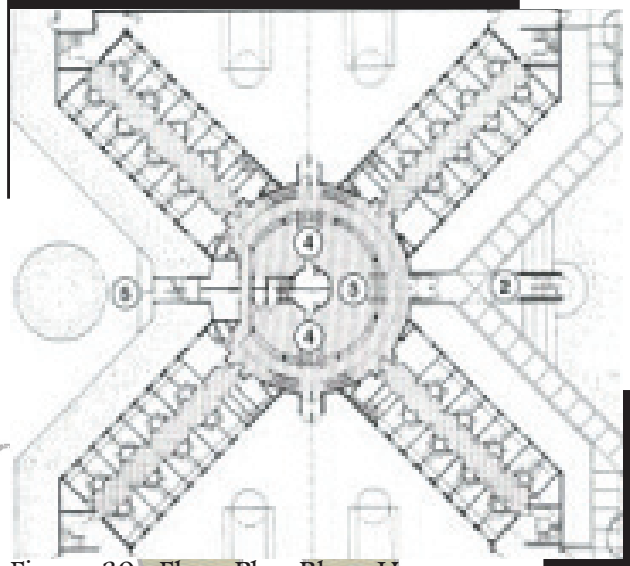

Figure 39: Floor Plan Blow-Up.

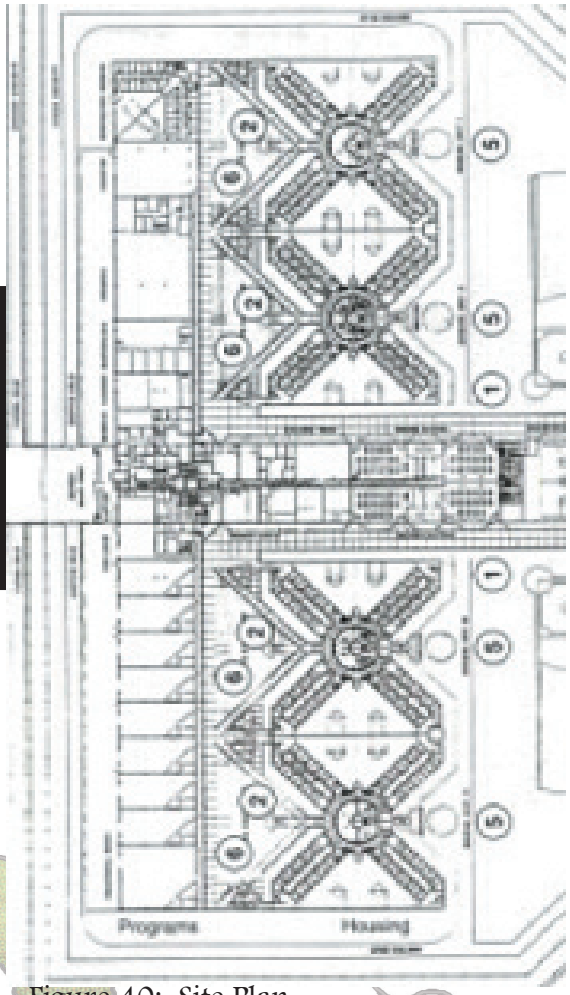

Figure 40: Site Plan.

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Case Studies

Federal Corre
Institution

Location:
Manchester, Kentucky

Design/Architect:
DMJM/DMJM-CRW

Desig
1. Cl improved, ar
2. C ater focus for
3. A te conditions
4. A d outside of s
5. Public views of inmate campus screened at entrance.
6. Relaxed architectural plan layout and aesthetics for public, staff, and inmates.

port,

256-beds minimum;
48 cells-maximum

Housing: One, 64-cell unit per control;
two 64-cell units per building

Mana
Staff: ulation of 15
Oper

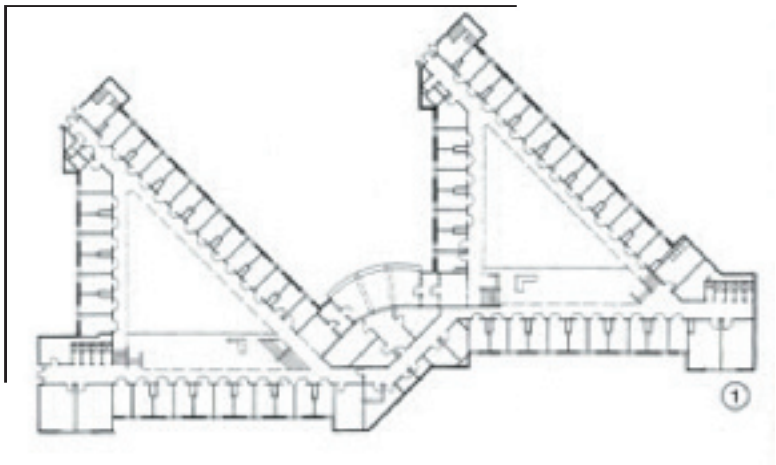

Figure 42: Floor Plan Blow-Up.

Figure 43: Site Plan.

Figure 44: Model photograph.

Case Studies

Young Adult
Correctional
Location:

Rio Piedras, Puerto Rico

Design/Architect:

Desig
1. T g central pro
2. Ea ed recreation
3. C novement to
4. T with covered
5. Inmate cells with operable windows take advantage of tropical winds.
6. Kitchen building screens public views of inmate housing at entrance.

h Prison
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trol;

Three units per facility
Management: Indirect Supervision
Staff: 376
Operational: 1986

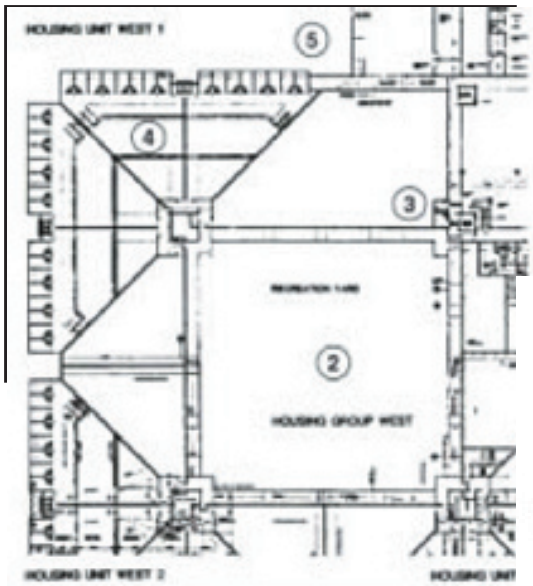


Figure 45: Floor Plan Blow-Up.

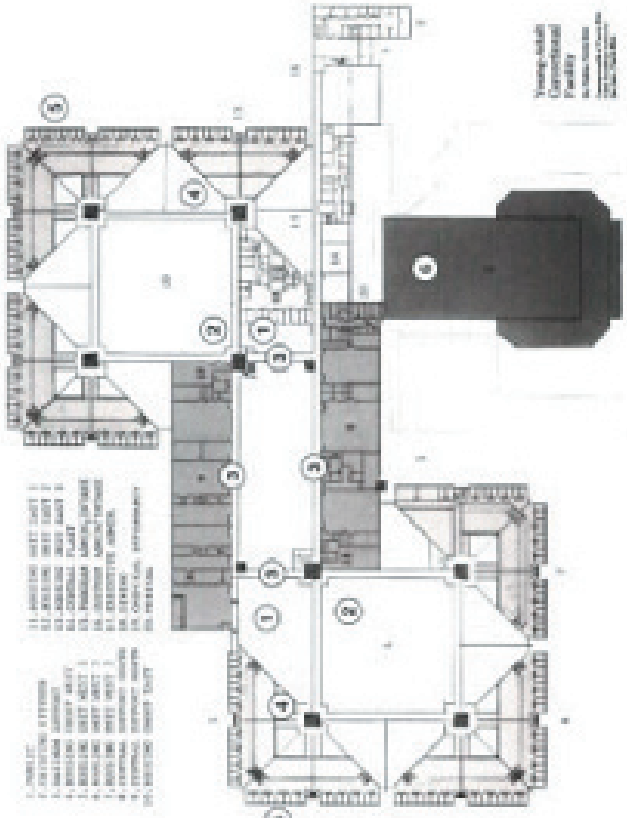


Figure 46: Site Plan.

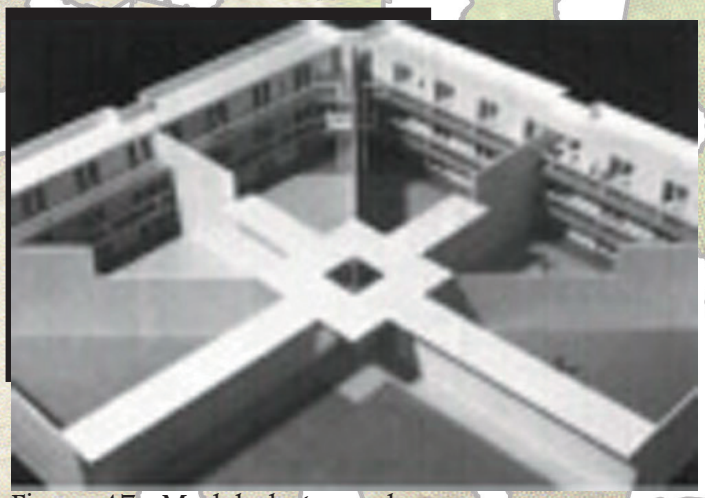


Figure 47: Model photograph.

Case Studies

Curran Fromk
Correctional
Location:
Philadelphia, Pennsylvania
Design/Architect:
DMJM

Desig
1. N existing pris
2. Al dden from re
3. N rs, above eye
4. Al internally to
5. Preserved original 1836 prison façade, centrally located in new facility.
6. Overcrowding prevented planned demolition of existing prison buildings.

administ
h mezza
m;
trol;
Three floors per building
Management: Indirect Supervision
Staff: 949 (total inmate population of 2059 + existing prison)
Operational: 1983

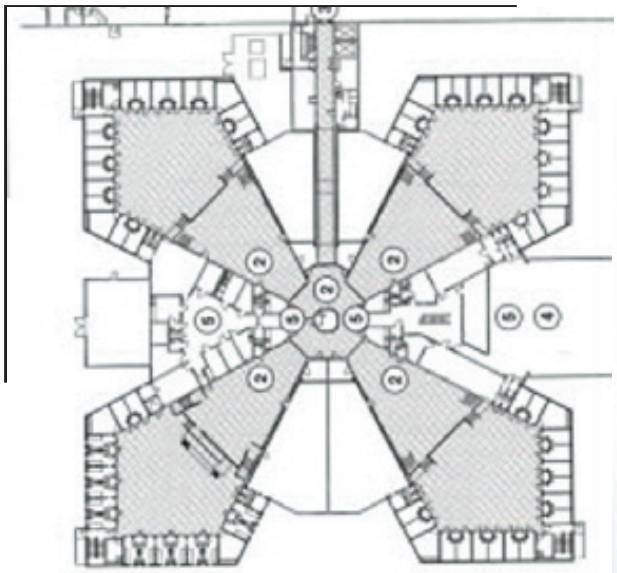


Figure 48: Floor Plan Blow-Up.

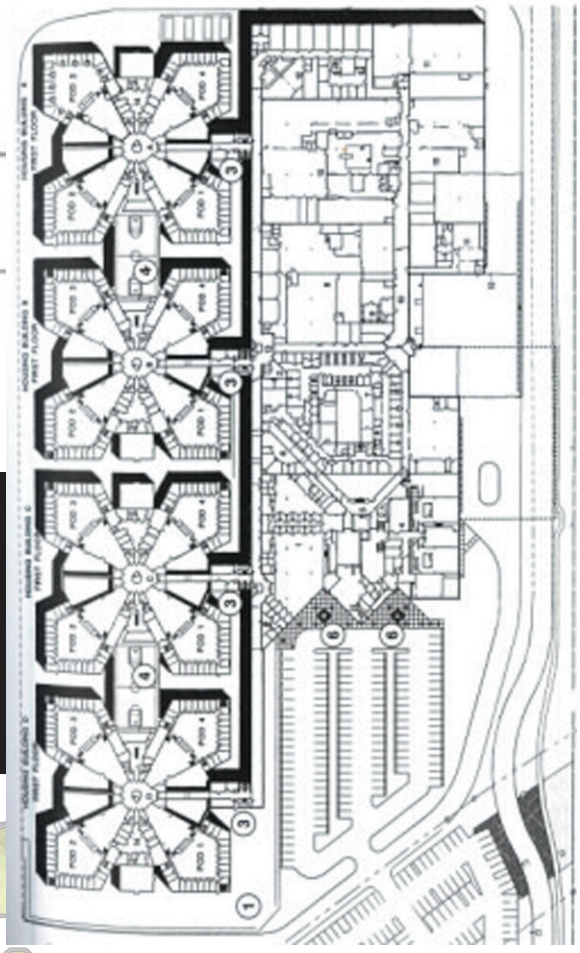
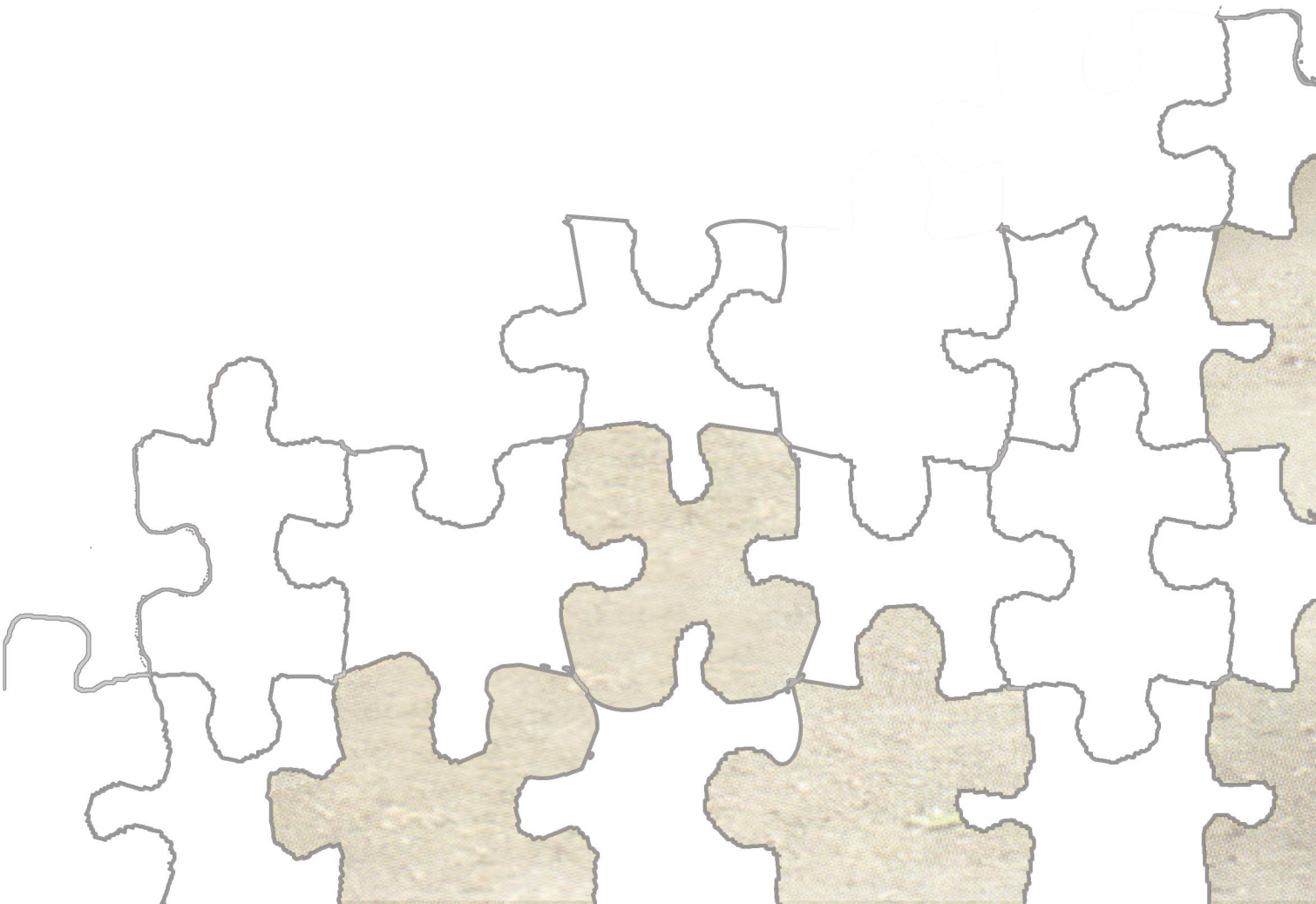


Figure 49: Site Plan.

Programmatic Requirements



Programmatic Requirments

Entrance

Description
•Serves as the reception point for visiting family members, friends, attorneys, social workers, and all other visitors.

Applicable Prototypical Spaces:

•Weather Vestibule	75 sq ft
•Janitorial Closet	70 sq ft

Operational Objectives
•Coordinate the processing of visitors in safe and controlled manner.
•Maintain security of facility throughout processing of visitors.
•Prevent Contraband from entering the secure facility
•Project a professional appearance to all those entering the building

Design Considerations
•Slightly block view direct view to control center.
•Locate Control Deck to observe the entrance vestibule.
•Provide and environment that reduces anxiety of individuals.
It is highly desirable to provide natural light to create pleasant and non-threatening environment. Introducing color in materials and acoustical treatment to surfaces will assist in maintaining ambience and acoustically quiet environment.

Programmatic Requirments

Intake/Transfer/Release

Description

•All persons entering a correctional facility must be legally admitted to the system by proper identification and physical condition. This area involves the orderly receiving, identification, screening, and processing of all new juveniles. Area must have observable and secure clothing exchange and search rooms.

Applicable Prototypical Spaces:

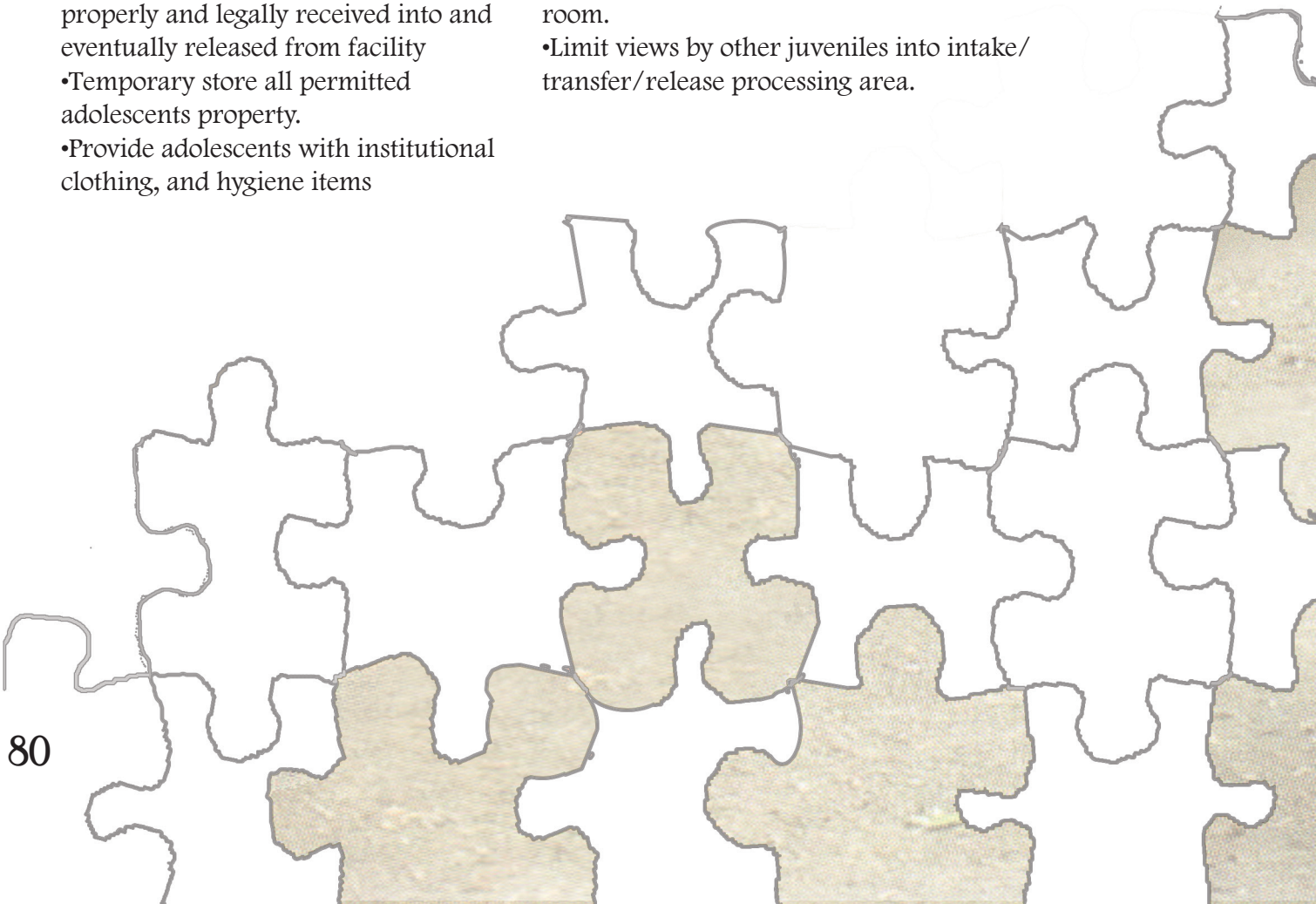
•Strip search room 140 sq ft
- •Shower/Toilet/Clothing exchange
- •Observation Booth

Operational Objectives

•Accept custody of newly admitted adolescents and ensure that they are properly and legally received into and eventually released from facility
•Temporary store all permitted adolescents property.
•Provide adolescents with institutional clothing, and hygiene items

Design Considerations

•Locate adolescents property and clothing storage in locked lockers in clothing exchange room.
•Limit views by other juveniles into intake/transfer/release processing area.



Master Control Center

Description

•The Master Control Center (Deck) is the lifeline and nerve center of the facility. It is responsible for a successful and trouble-free operation. It oversees and monitors all facility operations and communications, including electronically monitoring all movement in and out of the facility.

Applicable Prototypical Spaces:

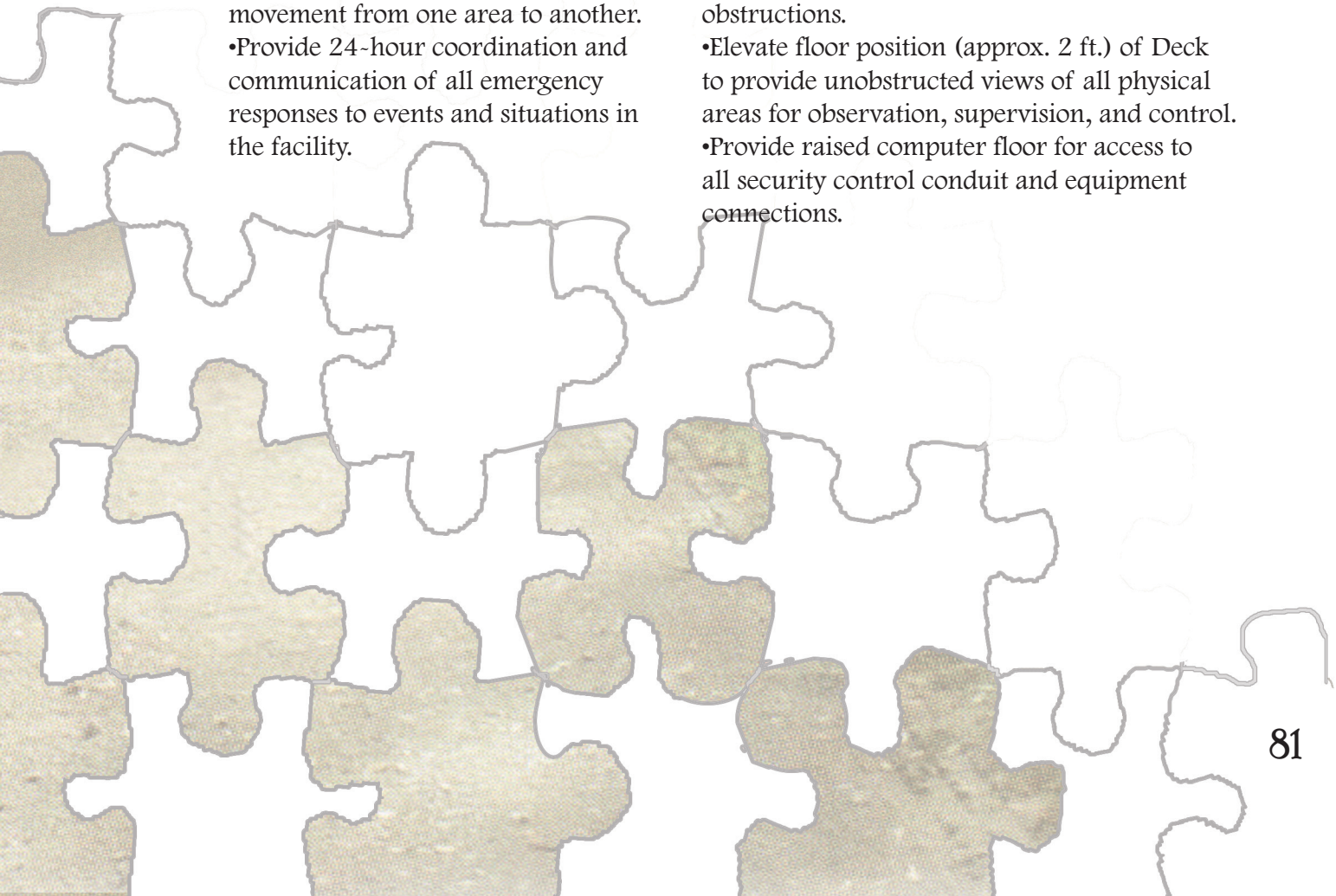
•Observation Deck 250 sq ft

Operational Objectives

•Provide 24-hour control of all internal security systems, controlling movement from one area to another.
•Provide 24-hour coordination and communication of all emergency responses to events and situations in the facility.

Design Considerations

•Positions the Deck for optimum observation to all adjacent areas with the least amount of obstructions.
•Elevate floor position (approx. 2 ft.) of Deck to provide unobstructed views of all physical areas for observation, supervision, and control.
•Provide raised computer floor for access to all security control conduit and equipment connections.



Programmatic Requirments

General Adolescent Housing

Description

•The housing area for the adolescent population is the heart of every institute since it provides the living area for part of a typical day.

Applicable Prototypical Spaces

•Individual rooms	72 sq ft
•Multiple Occupancy rooms	140 sq ft
•Shower area	160 sq ft
•Dayroom	1,600 sq ft
•Laundry facilities	95 sq ft
•Outdoor recreation	650 sq ft
•Staff toilet	70 sq ft

Operational Objectives

•Provide a safe and secure environment for adolescents confined to housing units.
•Provide manageably sized groups of adolescents in each housing unit.
•Provide separation of adolescent types by level of privilege (0-5) to encourage a positive attitude and behavior and to discourage unacceptable or disruptive behavior.
•Provide programs and services to adolescents within their housing units.
•Provide housing unit that meets all applicable local and state standards, Life Safety Code requirements, and national ACA Standards.
•Provide staff and adolescents with an environment that is free of physical and psychological danger.

Design Considerations

•Position observation deck to optimize observation of all entrance doors, dayroom, and rooms.
•Spatial diversity creates an opportunity for special architectural treatment of activities, such as TV viewing with carpeted floors versus dining areas with tile or hardened concrete floors.
•Reduced volume brings human scale down and interior character of residential living unit feels less institutional, whereby adolescent behavior may be improved and provide an environment for counselors to rehabilitate adolescent behavior in preparation for their return to society.

Education

Description

•This area provides spaces for a variety of educational needs that vary for each adolescent. Educational services must be provided to all adolescents, despite their level of privilege. So, for some, the educational services are brought to them rather than the juvenile attending regular classes with the other adolescents.

Applicable Prototypical Spaces:

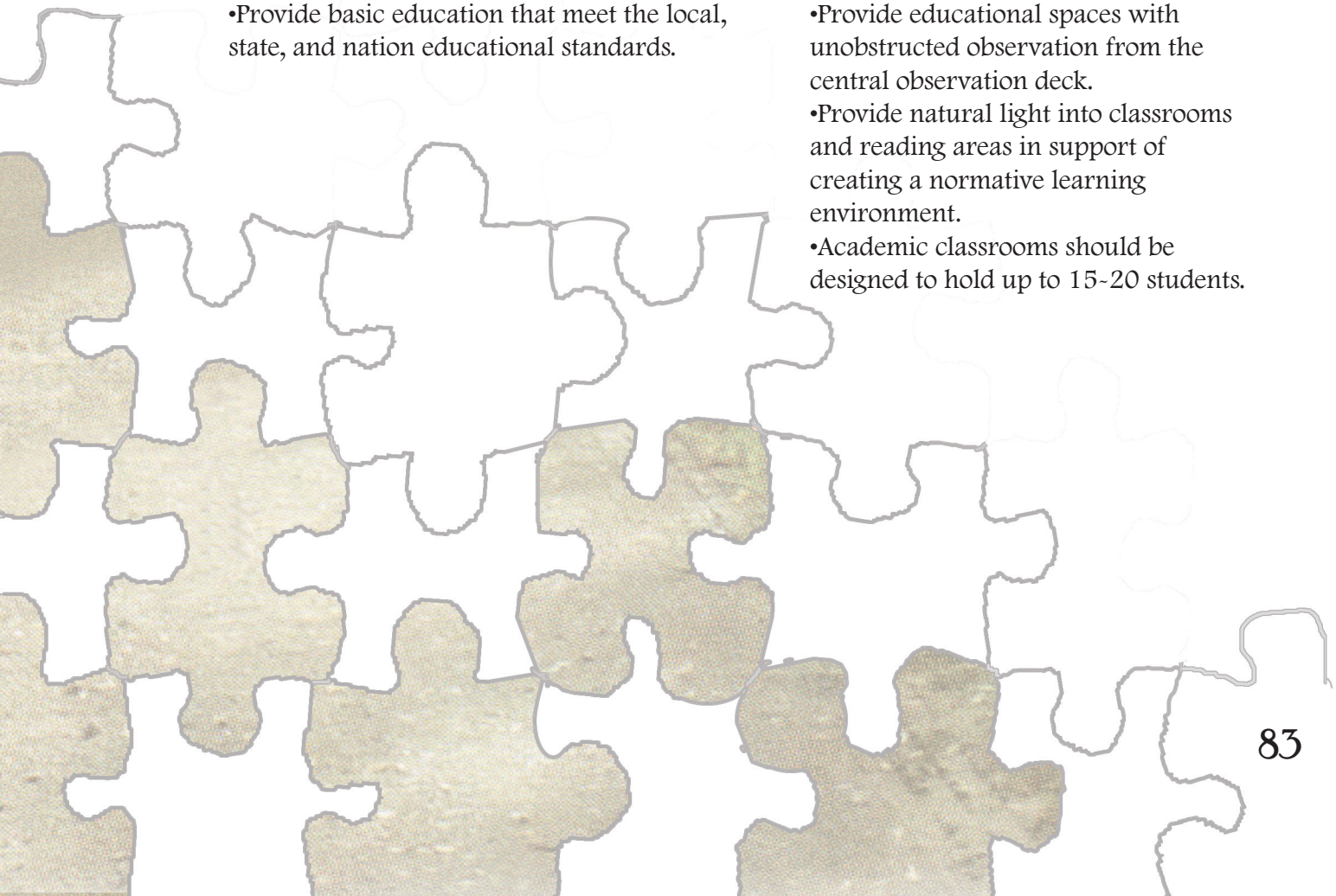
•Multi-purpose room	750 sq ft
•Multi-purpose room	350 sq ft
•Teacher office	125 sq ft
•Storage room	65 sq ft
•Multi-media space	125 sq ft

Operational Objectives

•Provide classrooms with supplies and materials to support the academic program
•Provide basic education that meet the local, state, and nation educational standards.

Design Considerations

•Locate educational spaces centrally with equal access to all adolescents.
•Provide educational spaces with unobstructed observation from the central observation deck.
•Provide natural light into classrooms and reading areas in support of creating a normative learning environment.
•Academic classrooms should be designed to hold up to 15-20 students.



Programmatic Requirments

Counseling/Treatment Services

Description

•A wide range of counseling and mental health services are normally provided for the adolescents to assure rehabilitation opportunities and activities oriented toward self-improvement, and group interaction. Treatment programs vary and are individualized for each adolescent so that each may reach their full potential of rehabilitation.

Applicable Prototypical Spaces:

•Multipurpose room	750 sq ft
•Multipurpose room	350 sq ft
•Counseling offices	150 sq ft

Operational Objectives

•To accurately access the adolescents upon initial intake and setup the appropriate individualized treatment program.

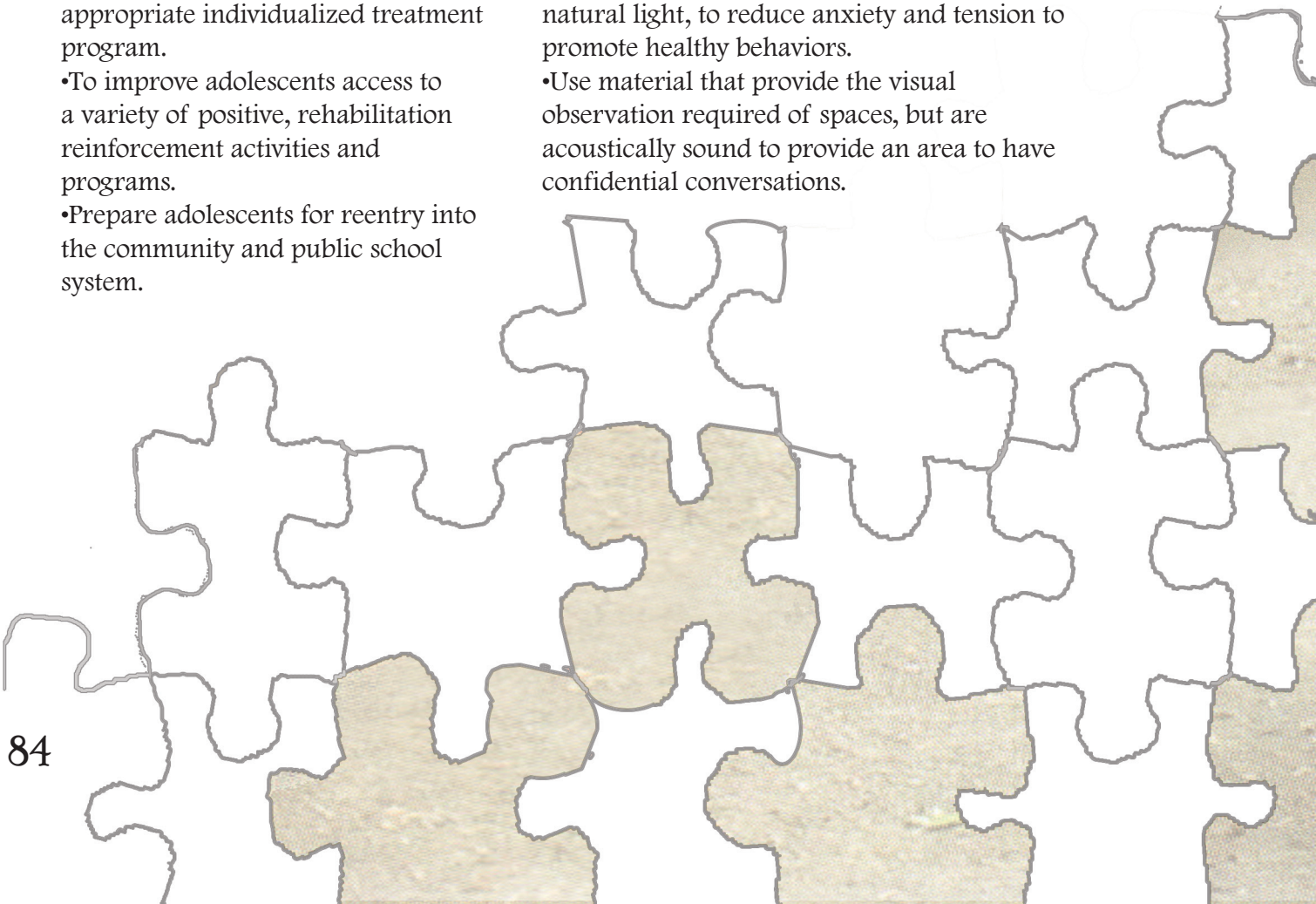
•To improve adolescents access to a variety of positive, rehabilitation reinforcement activities and programs.

•Prepare adolescents for reentry into the community and public school system.

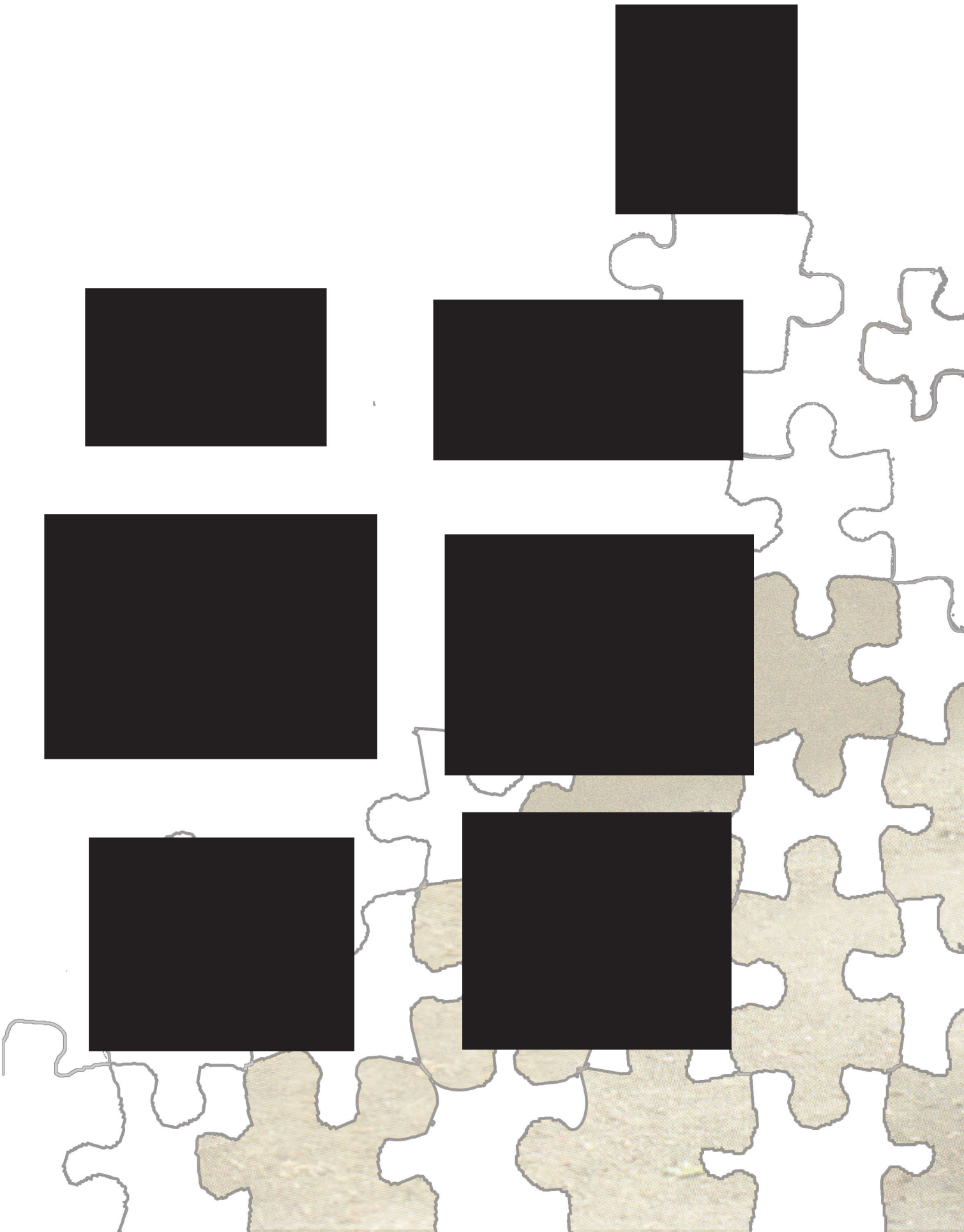
Design Considerations

•Provide area that is comfortable with an environment of normative character, including natural light, to reduce anxiety and tension to promote healthy behaviors.

•Use material that provide the visual observation required of spaces, but are acoustically sound to provide an area to have confidential conversations.



Process Documentation



Process

[redacted]

pedestrian paths, vehicular paths and the footprint for a new cottage prototype.

A Multi-faceted Building:

The original idea for this project was a multi-faceted building which would serve the purpose of residential, education, evaluation, t would aster lized al as a iginally

[redacted]

scope and that being a multi-faceted campus. The new project placed a heavy emphasis on master planning and the design of one cottage prototype.

[redacted]

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how lt nd respect the historic district in which I was designing.

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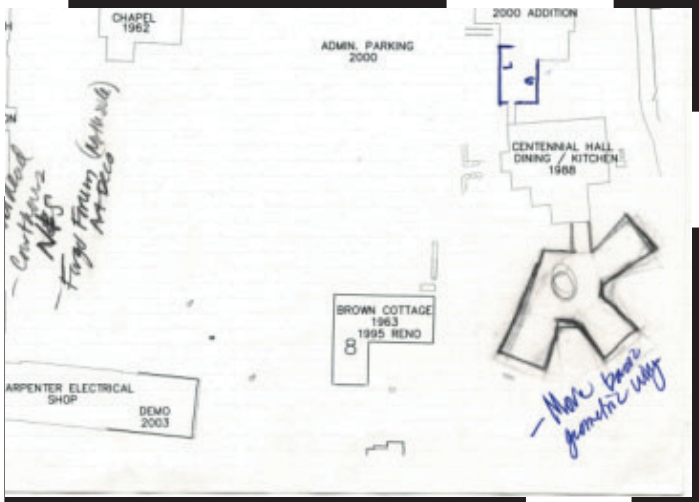
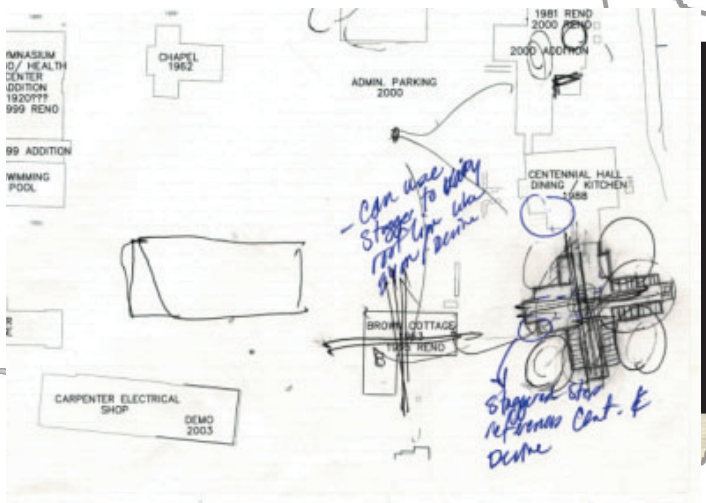
was apparent toward a more
basic shape that would fit into the
context.



od
combination of basic shapes while
respecting the historic buildings.
However, it would still need to be



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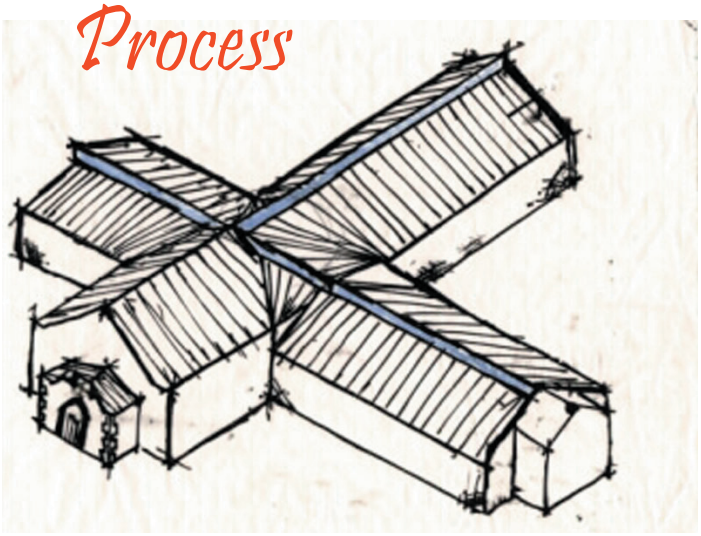
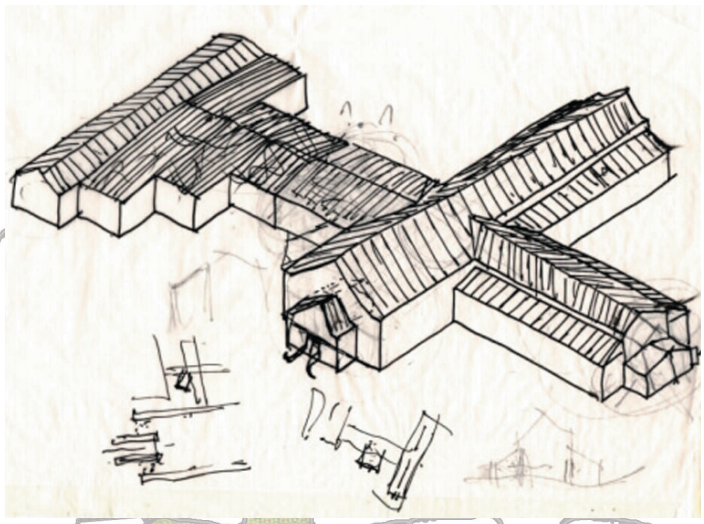
Process

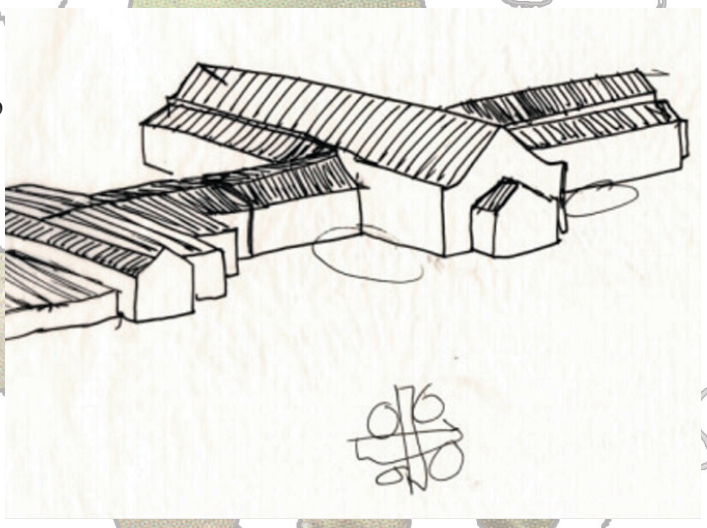
With the quick aid of AutoDesk, the 3-D model form quickly took an early form.



By drawing the adjoining building with roofslopes, it was apparent that this idea was on the right track. Adding in the idea of a set of clerestroy windows, gave seperate forms to what would be the living units and the day room.



From this angle I knew adjoinging to the existing Dining Center would be a sensistive issue, as it low in height with small roof slopes.



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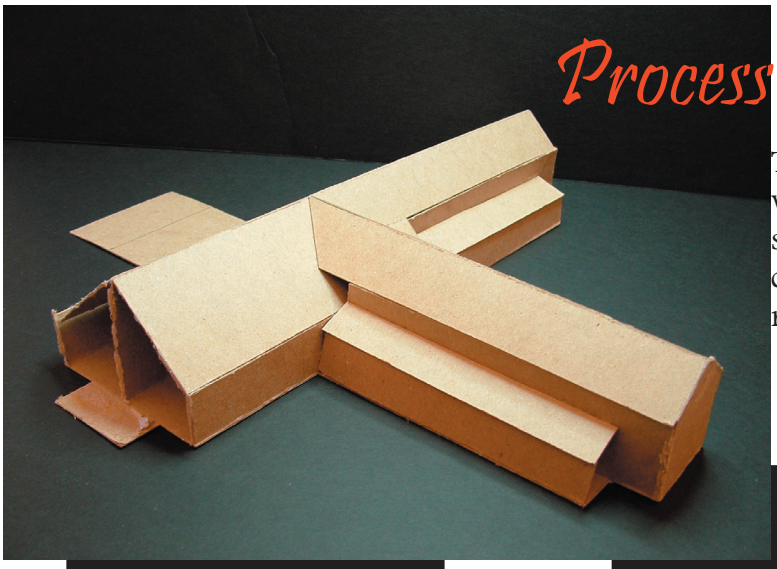

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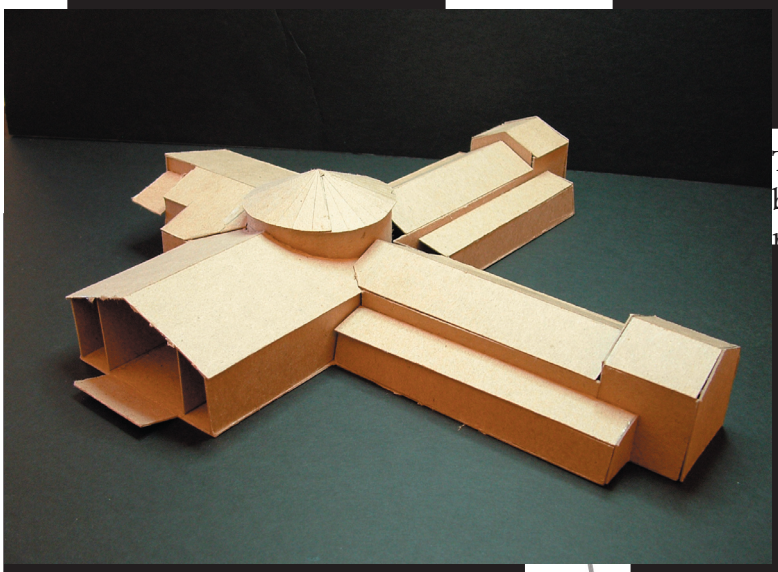

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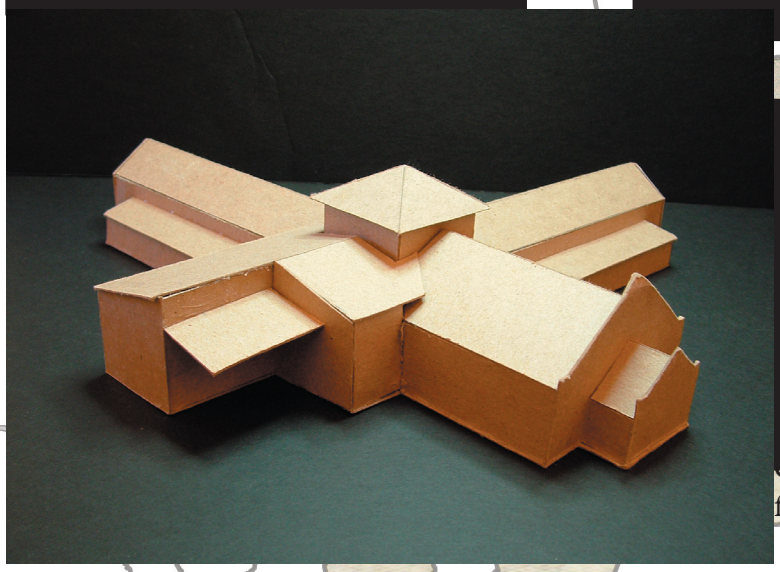

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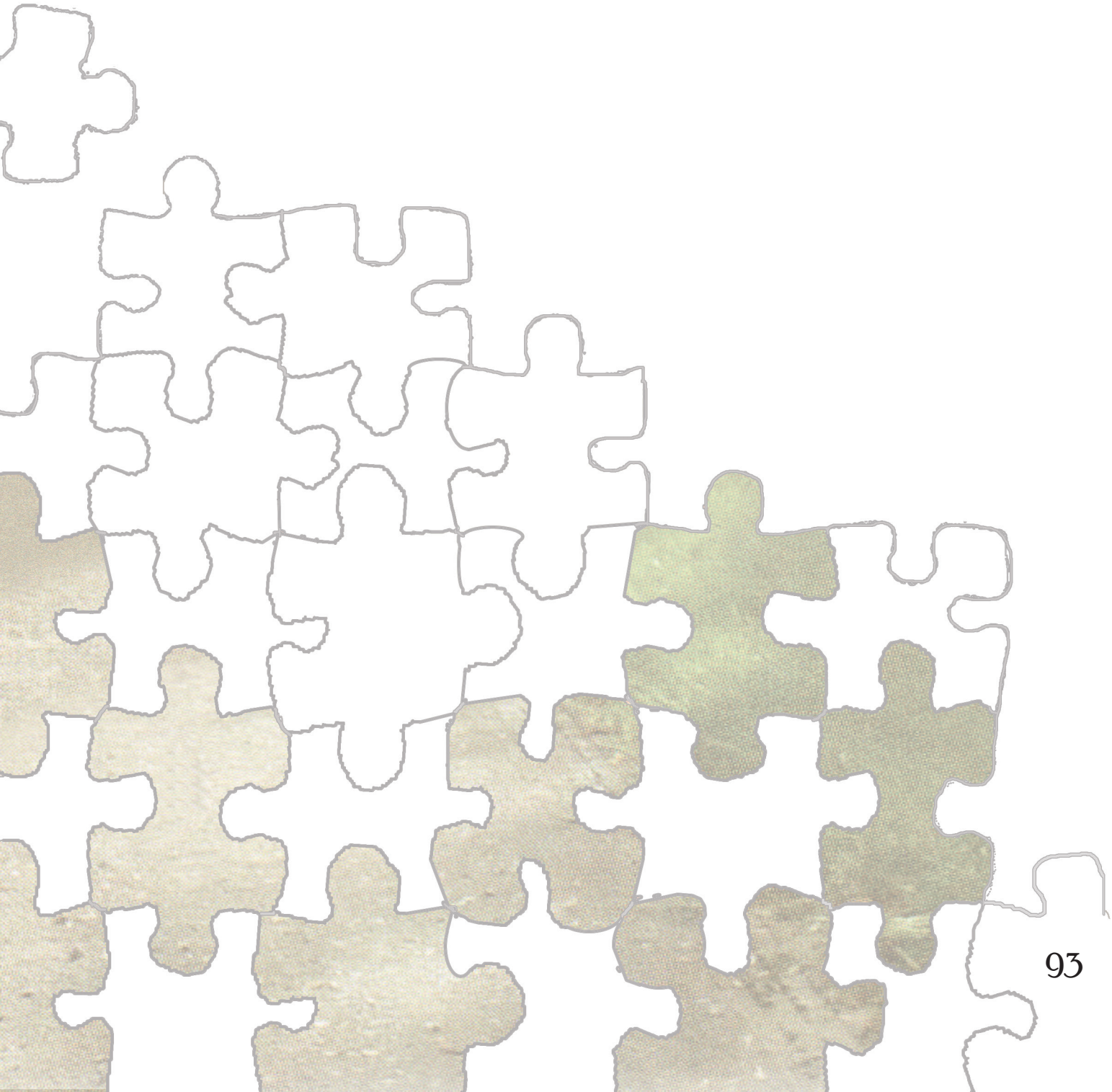

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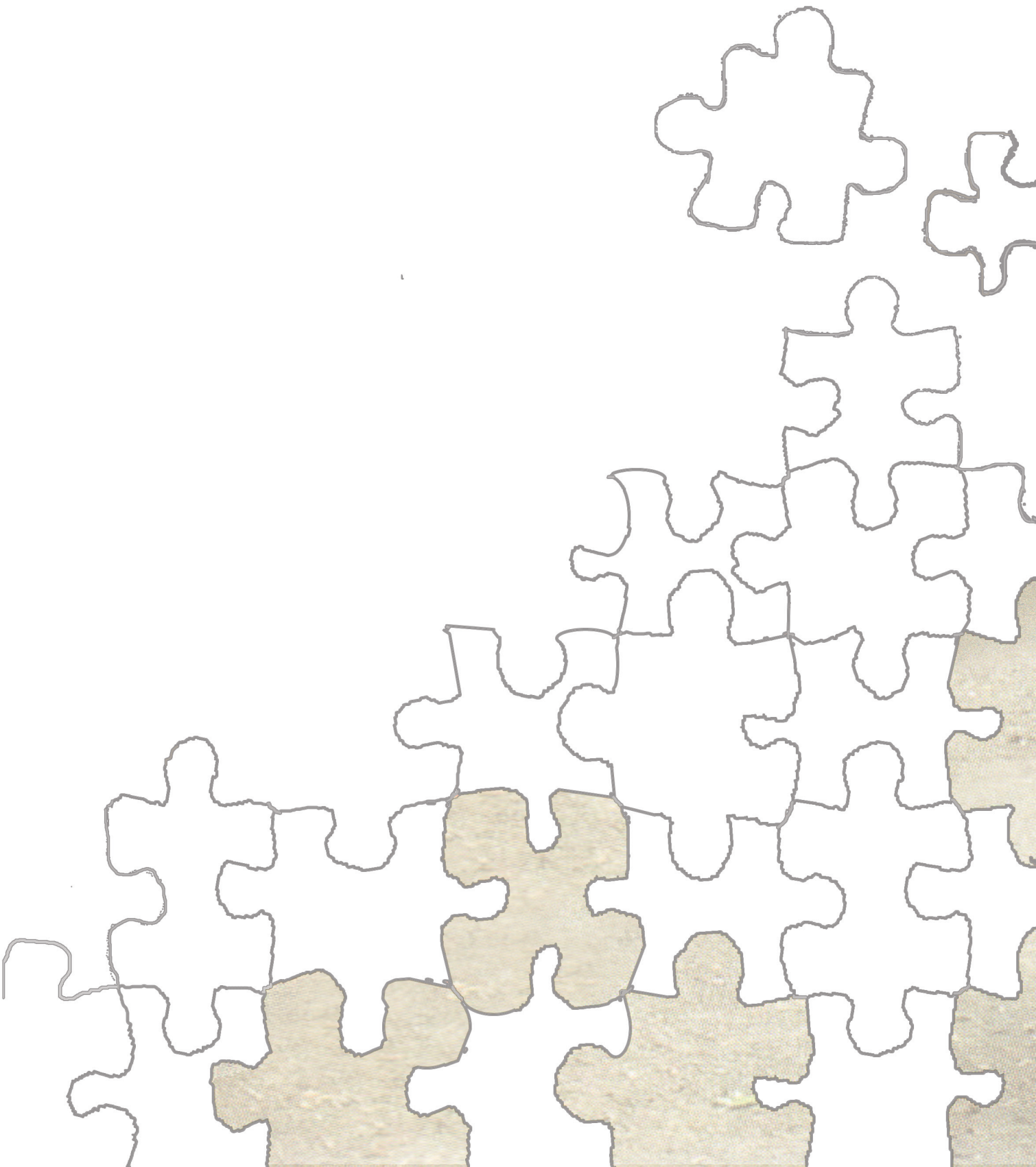


North Dakota Youth Correctional Center:

The Exploration of Multi-faceted Campus

Mandan, North Dakota — Architectural Design Thesis — Lisa K. Jerke

Final Solution

Project Description:

Nestled between the Heart River and scenic buttes, and just outside the ever growing city limits of Mandan, North Dakota, lies the campus of the North Dakota Youth Correctional Center (NDYCC). With no perimeter fences, this natural juvenile correctional center focuses on alternative means of security while rehabilitating the troubled adolescents of North Dakota. The mission of NDYCC is to protect society while providing education, detention, and therapeutic services to troubled adolescents within a safe and secure environment. Juveniles at NDYCC are prepared to return to a less restrictive placement in their communities with the skills to choose more appropriate behavior and to find success in their life.

This historic campus includes four male cottages and one female cottage. Other supporting buildings include the administration building, chapel, historic gymnasium, swimming pool, school, and dining hall. With buildings dating back to the 1920's, and several listed on the Secretary of Interior's National Register of Historic Places, the NDYCC campus is in dire need of not only a new facility to house more youth and a new campus master plan, but also a change in the infrastructure to more adequately meet their mission in serving the adolescents of North Dakota. Currently, NDYCC is implementing a new treatment entitled, Educating for Quality by Understanding Interpersonal Potential (EQUIP), which is an identity oriented treatment approach focusing on cognitive restructuring, anger management, social skills, and social decision-making. However, the current campus set-up is not ideal for this treatment to reach its full potential in rehabilitating and preparing the youth to re-enter society due to its disconnected, spread out buildings that result in non-integrated programs. To solve this problem my design of a new master plan that will more clearly lay out the different functions of the campus in a way that introduces positive peer support and well designed incentive programs to foster a more intensive and effective rehabilitation environment. In addition to designing a new master plan, I have also concentrated in designing a new cottage proto-type that integrates the same ideas of the Master Plan on a smaller level.

Site Information:

Location:
The North Dakota Youth Correctional Center is located west of Mandan, North Dakota just over the Heart River with the eastern half of the campus still lying within the city's corporate boundaries. The site is bordered to the south with a high bluff, to the east with the Heart River, and to the north with the Burlington Northern Santa Fe Pacific Railroad right-of-way. To the west of the campus lies farmland that is also owned by NDYCC.

View of new cottage site, currently serving as a soccer field.

View of the dining center building just to the north of the new cottage, which will be attaching tot he south wall to create a linked linear plan of cottages.

Perspective of New South Entrance:

A new iron gate at the new south entrance makes a grand impression on visitors of the campus. The tree-canopied path leads directly to the new administration building and parking lot. Along the drive, visitors are given their first glimpses of the campus through a tree-framed shot.

Master Planning:

The master planning part of the project became a major component late in the project after a research trip to Denver. After observing two successful pedestrian campus, it became apparent that the numerous roads on the campus of NDYCC were unnecessary and prohibitive as an unified campus that offered fully integrated programs of rehabilitation. By making a limited numberof major changes, the campus suddenly made a giant leap forward towards their goal of a new totally integrated intra-structure.

Changes:
-Main entrance moved to south side of campus and card key access gate installed to controll access to campus from outsiders.
-New administration building planned for location of original Main building, with adjoining parking lot to be used by all visitors.
-New boys cottage planned to attach to the south wall of the Centennial Dining Center.
-New Girls Cottage planned for current location of Brown cottage.
-The current girls cottage, Maple Hall, would be town down.
-Assistant Directors house moved or new construction of a house directly across from the Director's house near the current main entrance.
-Volleyball courts, tennis courts, and baseball fields moved to west side of campus along with a new soccer field.
-Devine Hall be fully renovated into to an activity center to be used in part with incentive programs.
-New pedestrian mall planned for current location of tennis courts.
-All new pedestrian paths that casually meander across campus as connectors of the various functions.
-New plaza planned to west of dining center to be used in multiple ways including chess tables, performances, group sessions, etc.

Incentive Activities — Educational — Residential

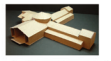
Perspective of New Plaza:

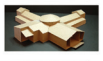
A new central plaza located amid the cottages and dining center, offers a comfortable space for adolescents and employees. With approaches coming in all directions, it is meant to guide it users from one space to another a landscaped path of tranquility and relaxation that helps foster a positive, healthy environment.

Process:

From the beginning, the new cottage has been heading in the direction of a multiple-wing building as it is the current trend in all levels and types of correctional facilities. Eventually, the current context and site would help the building find its final form.

Another major turning point in the design process happened after a research trip to Denver over Christmas. Contrary to most published research, one highly successful program also had a "no fence policy" and allowed the adolescents multiple programs to refocus their lives after their stay at these facilities. These also had small individual cottages with a more residential feel. Based on this research. As this building typology is constantly changing, I noted to place a greater importance on my direct observation research.





Historic Context:

Devine Hall

Currently boarded up and on schedule to be demolished, Devine Hall was actully the replica of the Dakota Hall dormitory, which has already been torn down. Being of Tudor Revival style, it was built with a steep, double-pitched intersecting roof. Essentially H-shaped in plan, it consisted of two long wings intersected by transverse center section. It is oriented along the north-south axis. Being designed with large open sleeping rooms, it could very easily serve a new function such as the suggested activity center.

Gymnasium

The Gymnasium was built in the Spanish Mission style, in 1924 along with 5 other buildings in a massive building campaign after much needed funds were finally allocated to the school. It was built by institutional labor. The gymnasium has since been listed on the National Register of Historic Places and fully renovated in 1990.

New Cottage Prototype:

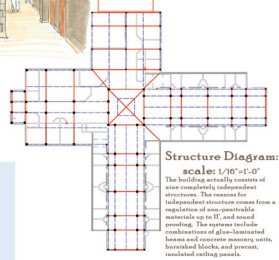
Perspective of Cottage Dayroom:

Each wing of the cottage is given their own dayroom and group name. As a part of the large arts program at the high school, a large mural space was planned for at the end of the dayroom to be a painted by those that live in that wing, which gives the adolescents the satisfying feeling of ownership of the building.

Floor Plans:

scale: 1/16"=1'-0"

The floor plans of the new cottage prototype offer 2 groups of 18 adolescents. Each group has it own living unit wing with large open dayrooms. The material and scale choices were made to stay within regulations, but offer a stimulating experience to its users. The space planning also offers a four-triples and six-singles in each wing. Living in the triple is considered as incentive as the toilet is not in the living unit, but in its own adjoining toilet room.



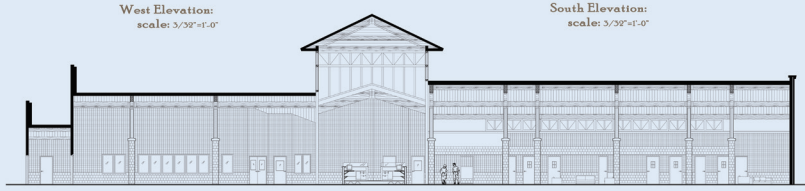
Structure Diagram:

scale: 1/16"=1'-0"

The building actually consists of nine completely independent structures. The reasons for independent structure comes from a regulation of non-penetrable materials up to 1', and sound proofing. The systems include combinations of glue-laminated beams and concrete masonry units, burnished blocks, and precast, insulated ceiling panels.

West Elevation:
scale: 3/32"=1'-0"

South Elevation:
scale: 3/32"=1'-0"

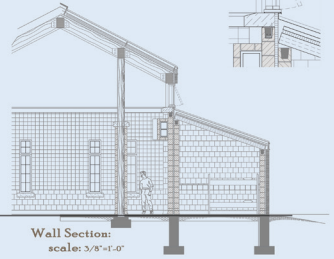


Building Section:
scale: 3/16"=1'-0"

Wall Detail:

scale: 1"=1'-0"

Wall section includes standing seam copper roofing, glue-laminating wood beams, burnished block, concrete masonry units, and precast insulated ceiling panels.



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At the end of the entry sequence of the new cottages is etched tempered-glass panel that prepares a first-time visitor for the spectacular glass atrium at the center of the building. The glue-laminated columns and beams support the Tudor half-timbering inspired mullion pattern on the glazing. Operable windows at the top aid in passive heating and cooling.

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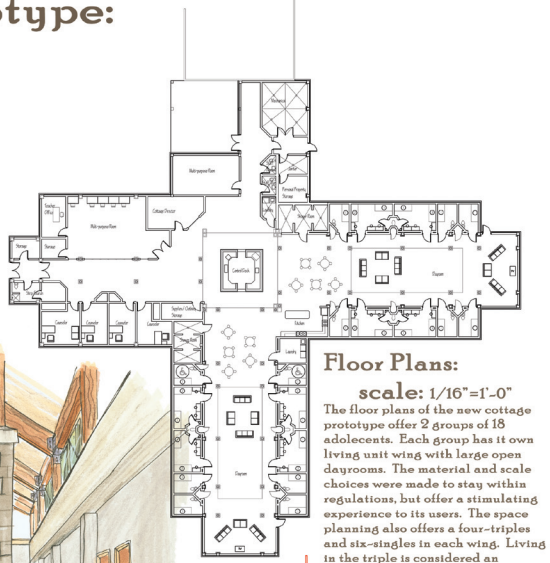

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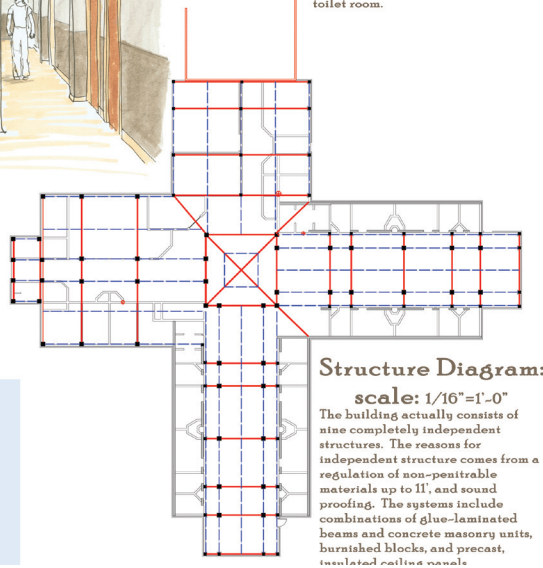

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Detail:

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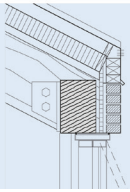

Wall Detail:

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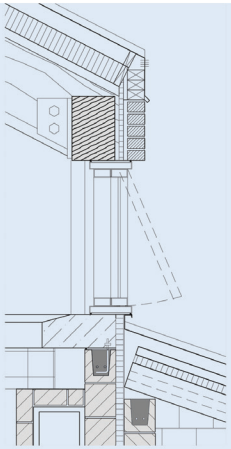

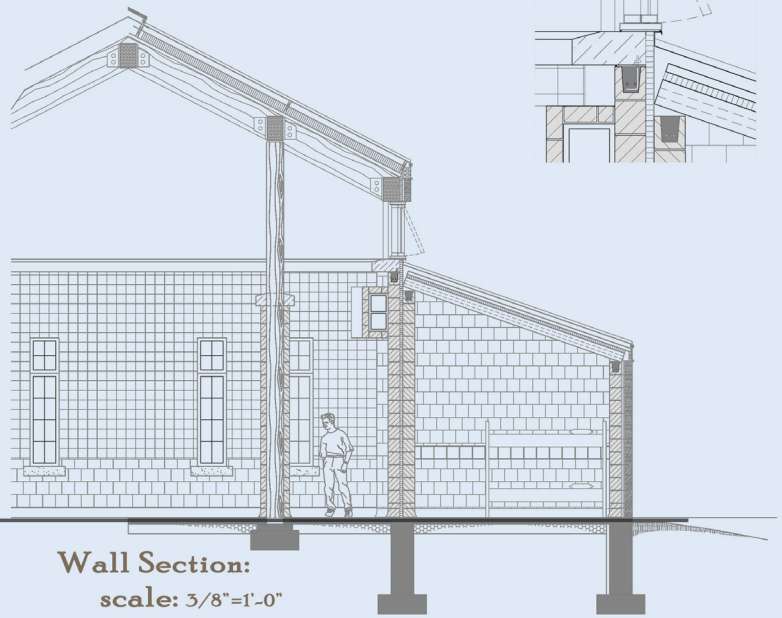

Wall Section:

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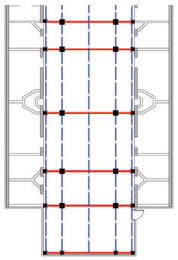

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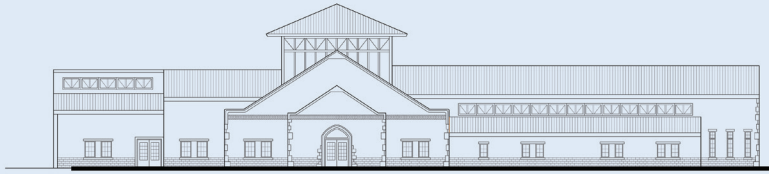

West Elevation:
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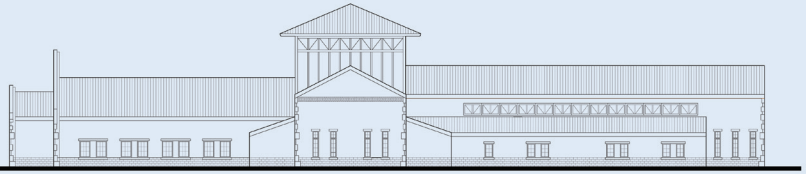

South Elevation:
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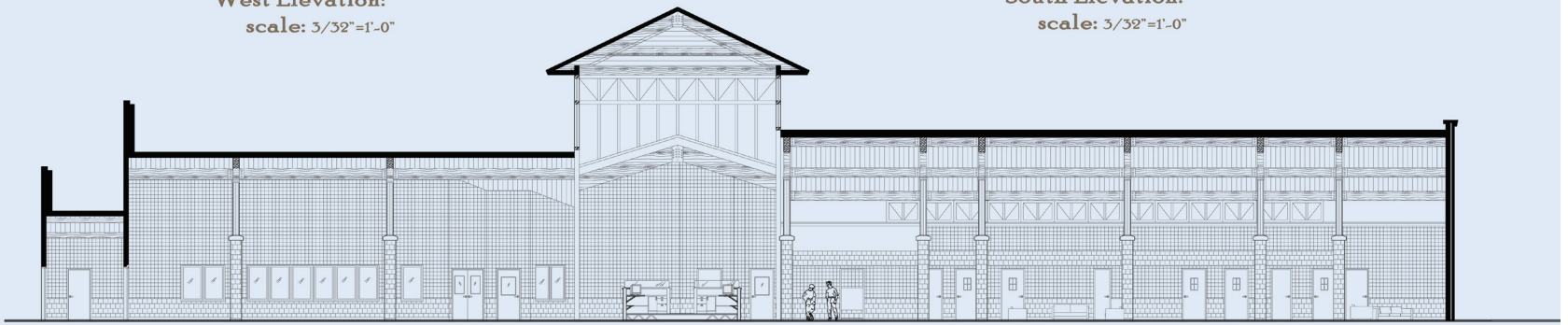

Building Section:
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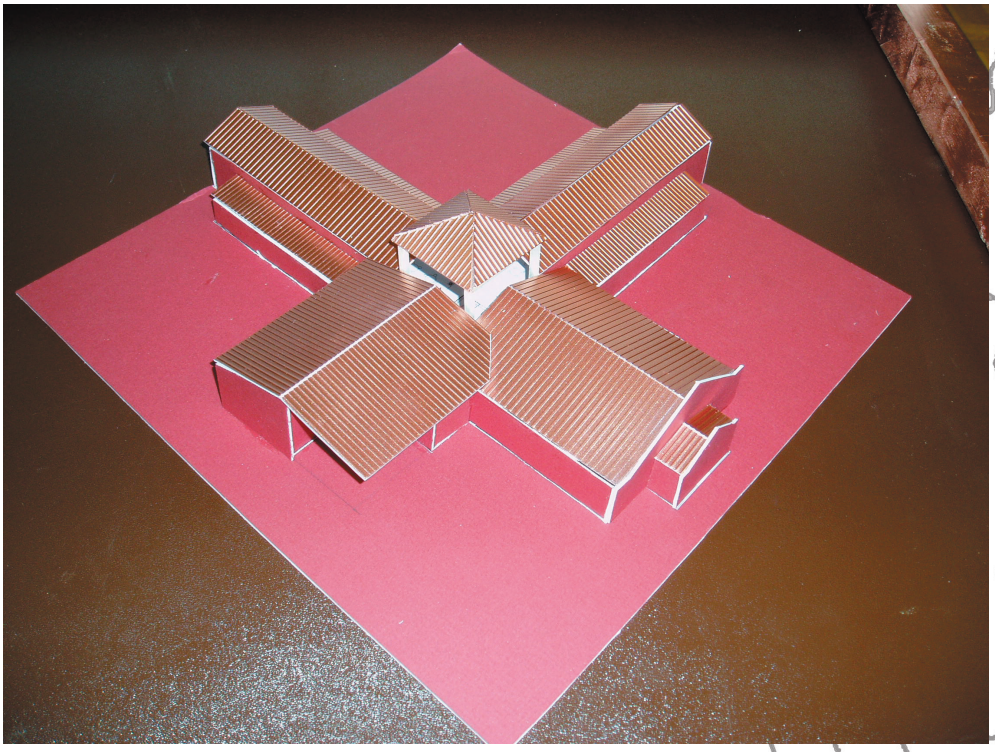
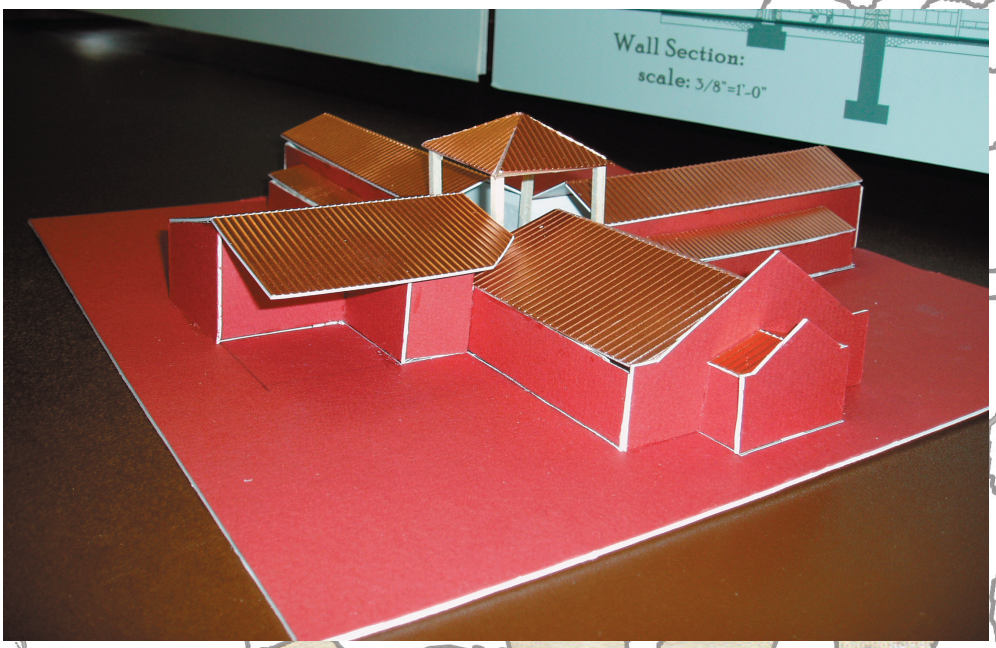
Final Solution



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Architectural Design Thesis
Lisa K. Jerke
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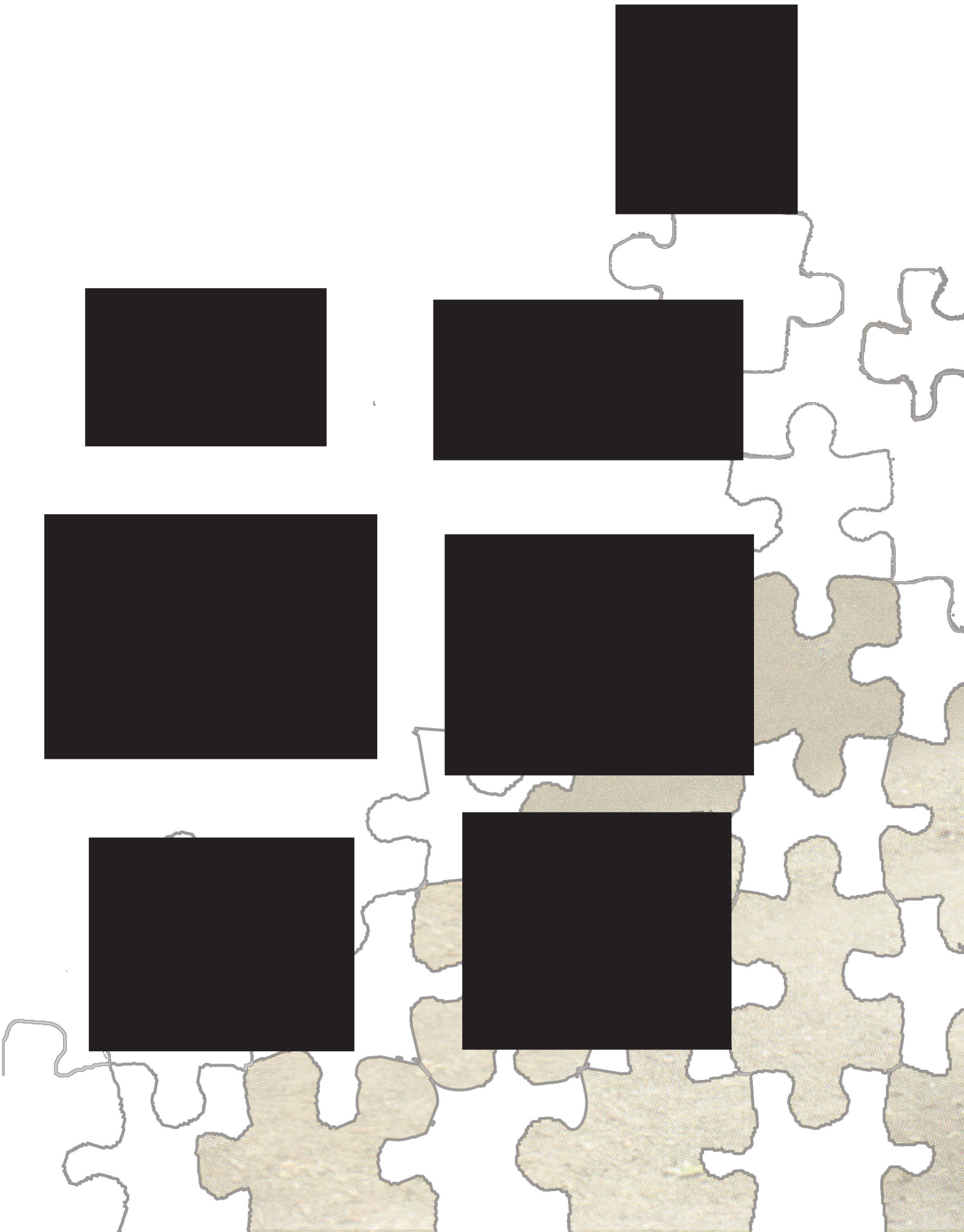

Reference List

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Darrell Nitschke. NDYCC Superintendent.

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Interview. Darrell Nitschke. NDYCC Superintendent. 08 October 2004.

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"North Dakota Youth Correctional Center." Discover ND: Your Gateway to North Dakota. 05 Oct. 2004 <http://www.state. >.

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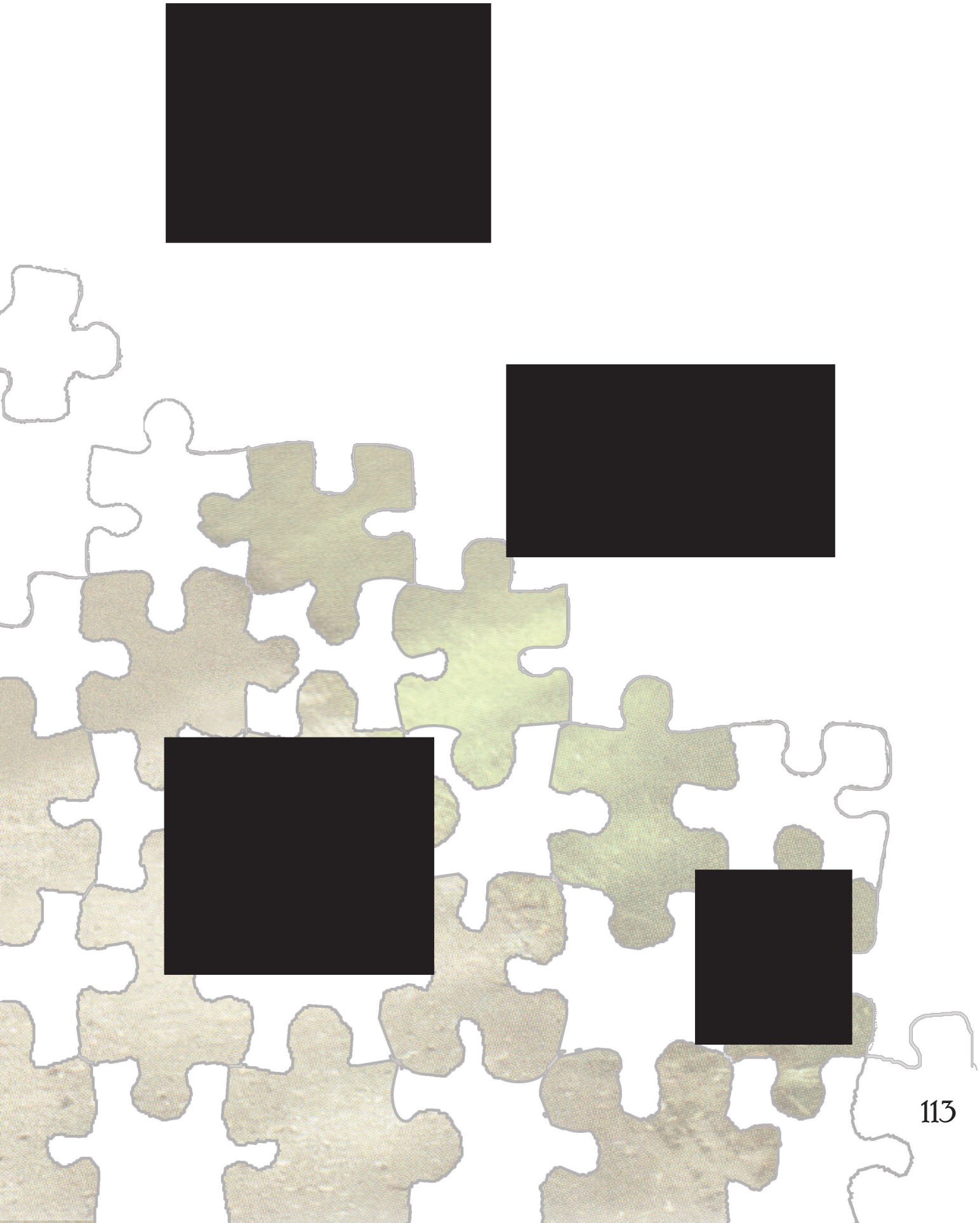
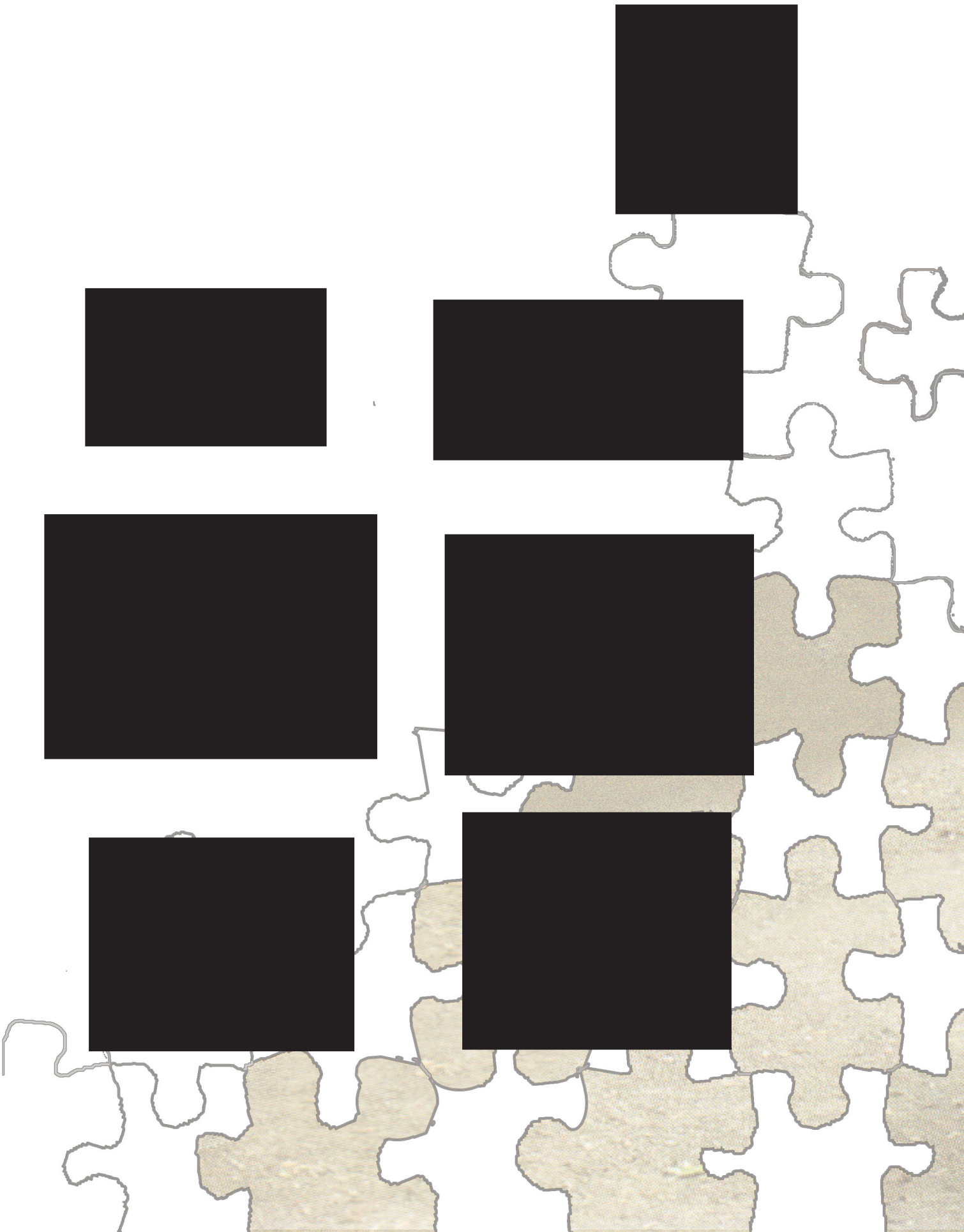


Appendix



Appendix

Statement of Intent

Nestled between the Heart River and the scenic buttes, and just outside the ever growing city limits of Mandan, North Dakota, lies the campus of the North Dakota Youth Correctional Center (NDYCC). With no perimeter fences, this unusual juvenile correctional center focuses on alternative means of security while rehabilitating the troubled adolescents of North Dakota. The mission of NDYCC is to protect society while providing education, detention, and therapeutic services to troubled adolescents within a safe and secure environment. Juvenile at NDYCC are prepared to return to a less restrictive placement in their communities with the skills to choose more appropriate behavior and to find success in their life.

This historic campus includes four male cottages and one female cottage. Other supporting buildings include the administration building, chapel, historic gymnasium/swimming pool, school, and dining hall. With buildings dating back to the 1920s, and several listed on the Historic Register, the NDYCC campus is in dire need of not only a new facility to house more youth and a new master plan, but also a change in the infrastructure to more adequately meet their mission in serving the adolescents of North Dakota.

Currently, NDYCC is implementing a new treatment entitled, Educating for Quality by Understanding Interpersonal Potential (EQUIP), which is an identity oriented treatment approach focusing on cognitive restructuring, anger management, social skills, and social decision-making. However, the current campus set-up is not ideal for this treatment to reach its full potential in rehabilitating and preparing the youth to re-enter society due to its disconnected, spread out buildings that result in non-integrated programs. To solve this problem I propose the design of a multi-faceted facility that will serve the needs of residence, education, evaluation, and treatment and a new main entrance on the south portion of the campus. To further enable NDYCC's treatment theory to reach the next level of effectiveness, the theoretical premises of my thesis project will also focus on the interpersonal potential of the facility's occupants, the troubled adolescents of North Dakota, through the integration of residence, education, evaluation, and treatment all within one multi-faceted building.

Appendix

Proposal

User/Client Description

Currently, the North Dakota Youth Correctional Center (NDYCC) is the state of North Dakota's only state funded secure juvenile correctional institution. Operating within the Division of Juvenile Services, it provides a secure detention and rehabilitation facility to the juveniles requiring the most restrictive environment, maximum perso[redacted]les varie[redacted]quent beha[redacted]

The u[redacted] facili[redacted]
The users or user groups will be the delinquent juveniles of North Dakota that have been placed at the facility

[redacted]

Major Project Elements

The r[redacted] be inc[redacted] comp[redacted]C. It wil[redacted] evalu[redacted] the c[redacted] Becau[redacted]s a diff[redacted] requi[redacted]

[redacted]

Residence:
Indivi[redacted] Living Units
Dayroom
Exercise Room
Shower/Bathroom
[redacted]m
[redacted]
Cottage Director Office
Kitchen
Kitchen
Staff Offices
[redacted]m
[redacted]
Circulation
Storage
[redacted] Rooms
[redacted]
[redacted] west
[redacted]ver
[redacted]ity
[redacted] south
with the bluffs of the Heart River, to the east with the Heart River, to the west with farm land and to the north

with the Burlington Northern Santa Fe Pacific Railroad. The NDYCC has been in existence, although under several different names, since the early 1900s with buildings dating back to 1920 and earlier.

The city of Mandan is well known as the home to Lt. Col. George A. Custer and his 7th Calvary prior to the Battle of Little Big Horn in 1876. Just prior to this, the tracts of the Northern Pacific Railway had reached the Missouri River in 1873, bringing with it over 100,000 people to the territory.

With a population of 16,718 people and house hold average of 2.63 people, Mandan is presently a suburban bedroom community to the state capital of Bismarck, North Dakota, which lies just seven mile away across the Missouri River. The median age of Mandan is 36.0. While the average household income is $38,182, the median income is $16,295. The racial makeup of the city is 95% White, 3% Native American. the population spread is as follows: 27% under age 18, 9% from 18 to 24, 29,7% from 25 to 44, 21.6% from 45 to 64, and 12.7% over the age of 65. Of this population, 10% are living below the poverty line.

The entire Missouri River valley is considered to be the boundary between North Dakota's level, fertile farming land to the east and the rolling hills and bluffs to the west, which is ideal for ranching and includes the Badlands. It is believed that this stark line is the result from the edge of a glacier that moved slowly across the eastern half of the North Dakota and part of Minnesota, thus creating quite different topography and soil typology.

Located at latitude of 46 degrees and 46 minutes north of the Equator, this area is subject to longer hours of daylight in the summer months and limited hours during the winter months. The prevailing winds come from the southeast during the warmer summer months and out of the northwest during the colder winter months.

The NDYCC campus covers a total of 1,625,000 square feet. With almost the entire campus at an elevation of 1650 feet above sea level, this site has relatively consistent topography. There are six variations of two different soils types. Nearest the river, the Bottomlands soil variations are Banks very fine sandy loam, Banks silty clay, Banks silty clay, poorly drained, and Banks loamy fine sand. More centrally located on the campus are the soil variations of the soil typology of Terraces, Alluvial Fans and Natural Leeves, which are the Huff silt loam and Hall silty clay loam. In general this site is covered with good farming soil that does not blow easily.

Appendix

Proposal

The southeast corner of the campus, around 63,500 square feet, was chosen for this specific building, which is currently used as a soccer field. NDYCC has expressed a need to relocate the main campus entrance to this area and would like the new building to act as a welcoming agent and security control for the rest of the campus. This site will also be locating all the juvenile living units to one side of the campus, leaving the o
build

At pr the
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Hall, ine
Cottage, Brown Cottage, Gymnasium/
Health Center, Swimming Pool,
Centennial Hall, Administration, School,
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Hall is also eligible being built in 1925.

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Master Plan

With the addition
introduces a new infrastructure to the NDYCC, the rest of the campus must also take on new challenges. This will mean addressing the issues of restoring
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needs
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With a new facility on the campus, this issue will also need to be readdressed. The need for a new main entrance will

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Research Direction

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be
intended for the understanding of how to integrate all of these philosophies

so that the building itself supports the integration of the different facets within.

Design Methodology

Through the implementation of design methods, the correlations and connections between the multiple facets of this project should become apparent. Interviews of administrators, literature searches and analysis of case studies will be the initial design methods used. As the thesis process continues other design methods such as Interaction Matrix, Bubble Diagrams, Venn Diagrams, Brainstorming, and Interaction Nets will be applied to uncover the correlations between spaces

Design Process Documentation

Throughout the entire thesis process all collected information will be dated and filed into a binder or accordion file. All notes, thoughts and sketches will also be dated and kept in a sketchbook. Notes generated from reviews and meetings with primary and secondary critics will be documented in a notebook. All digital files will be kept will be dually preserved in a digital format on my laptop and on a CD with all hard copies dated and filed with other project information.

Work Schedule

Fall Semester 2004

Week # 1	October 3-9
4 Oct	Studio First Draft Due
7 Oct	Thesis Proposal Due
8 Oct	Research Trip to site
Week #2	October 10-16
14 Oct	Student Preference Slips Due
	Research
Week #3	October 17-23
18 Oct	Studio Second Draft Due
21 Oct	Primary and Secondary Critics announced
	Research
Week #4	October 24-30
28 Oct	Last day of AR/LA 561 Class
	Research
	Define Program
	Meet with Primary Critic
Week #5	October 31-November 6
	Research
	Begin Gathering Program Information
	Meet with Secondary Critic
Week #6	November 7-13
11 Nov	Veterans' Day Holiday
	Research
	Begin Drafting Program
	Meet with Primary Critic
Week #7	November 14-20
15-19 Nov	Final Week of AR/LA 571
	Research
	Draft of Program

Appendix

Proposal

Week #8 November 21-27
24 Nov Draft Thesis Program due to Primary Critic (1 copy)
25-26 Nov Thanksgiving Holiday
Site Analysis Research, Building & Site Docum.

Week #9 November 28- December 4
Compile all site information
Final Draft of Program

Week
09 D m due to
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10 D

Week #11 December 12-18
13-17 Dec Final Examinations
Meet with Primary Critic

Spring Semester 2005

Week
11 Ja atic
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Week #16 January
17 Jan Concept
Base map and site analysis completed
Meet with Secondary Critic

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planning finished.
Meet with Primary Critic

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Study models to explore the
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sketches started
Meet with Secondary Critic

Week #21	February 20-26
21 Feb	President's Day Holiday Design Development Material studies & initial exterior elevation studies; type-study material palettes Elevation studies & perspective sections Meet with Primary Critic
Week #22	February 27- March 5 Design Development Expressive character & technology of assembly Wall sections resolved & detailed material studies Meet with Secondary Critic
Week #23	March 6-12
7-11 Mar	Mid-semester Thesis Reviews Prepare Review Presentation All key design decisions made Meet with Primary Critic
Week #24	March 13-19 Spring Break Job Search trip planned Catch up on any tasks
Week #25	March 20- 26
25-26 Mar	Easter Holiday Presentation Drawings Revisit all design issues Meet with Primary Critic
Week #26	March 27- April 2
27-28 Mar	Easter Holiday Interior space studies & character sketches finalized Presentation Drawings Meet with Primary & Secondary Critics
Week #27	April 3-9 Presentation Drawings Storyboard the layout of final presentation Decide on presentation medium & buy materials Meet with Primary & Secondary Critics
Week #28	April 10-16 Presentation Drawings Work on presentation boards & models Meet with Primary & Secondary Critics
Week #29	April 17-23
25 Apr	Thesis Projects due at 4:30pm in the MU Ballroom Work on presentation boards & models Final touches, output/ printing, mounting Presentation Drawings
Week #30	April 24- 30
28-30 April	Final Thesis Reviews
Week #31	May 1-7
1-5 May	Final Thesis Reviews Revise program document Draft copy of final document to primary critic
Week #32	May 8-14
09-13 May	Final examinations
12 May	Final Thesis Document due at 4:30pm in the Arch office
13 May	Commencement at 4:00pm Fargodome

Appendix

Proposal

Previous Studio Experience

2nd Year Studio

Fall 2001 Vince Hatlen Arch 271
Additive/Subtractive Semi-circle
Shape Study
Nativity Elementary School
Library Addition

Spring 2002 Milton Yergens Arch 272

[redacted]ture

[redacted]

Saint Mary's Catholic Church-
New Construction
Montreal Footbridge-All-School

[redacted]

Spring 2003 Carol Prafke Arch 372
Children's Performing Arts
Center-Downtown Fargo, ND

[redacted]

4th Y[redacted]

Fall 2[redacted]
Mark[redacted]471

[redacted]

Fargo, ND

[redacted]

Spring 2004 Don[redacted]
Medium Density Housing-
Marvin Windows Competition
Bio-Climatic Skyscraper in San
[redacted]etition

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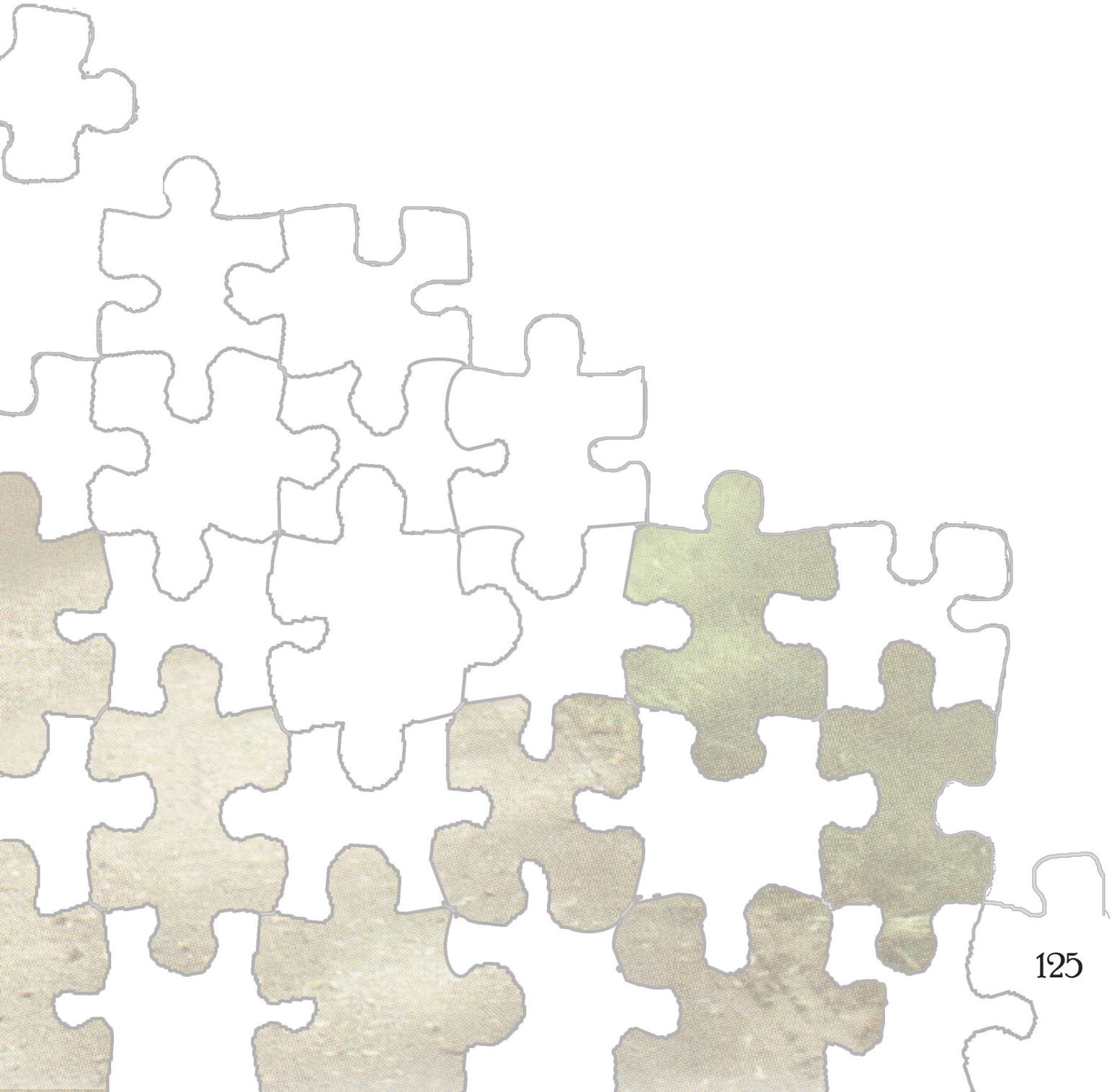
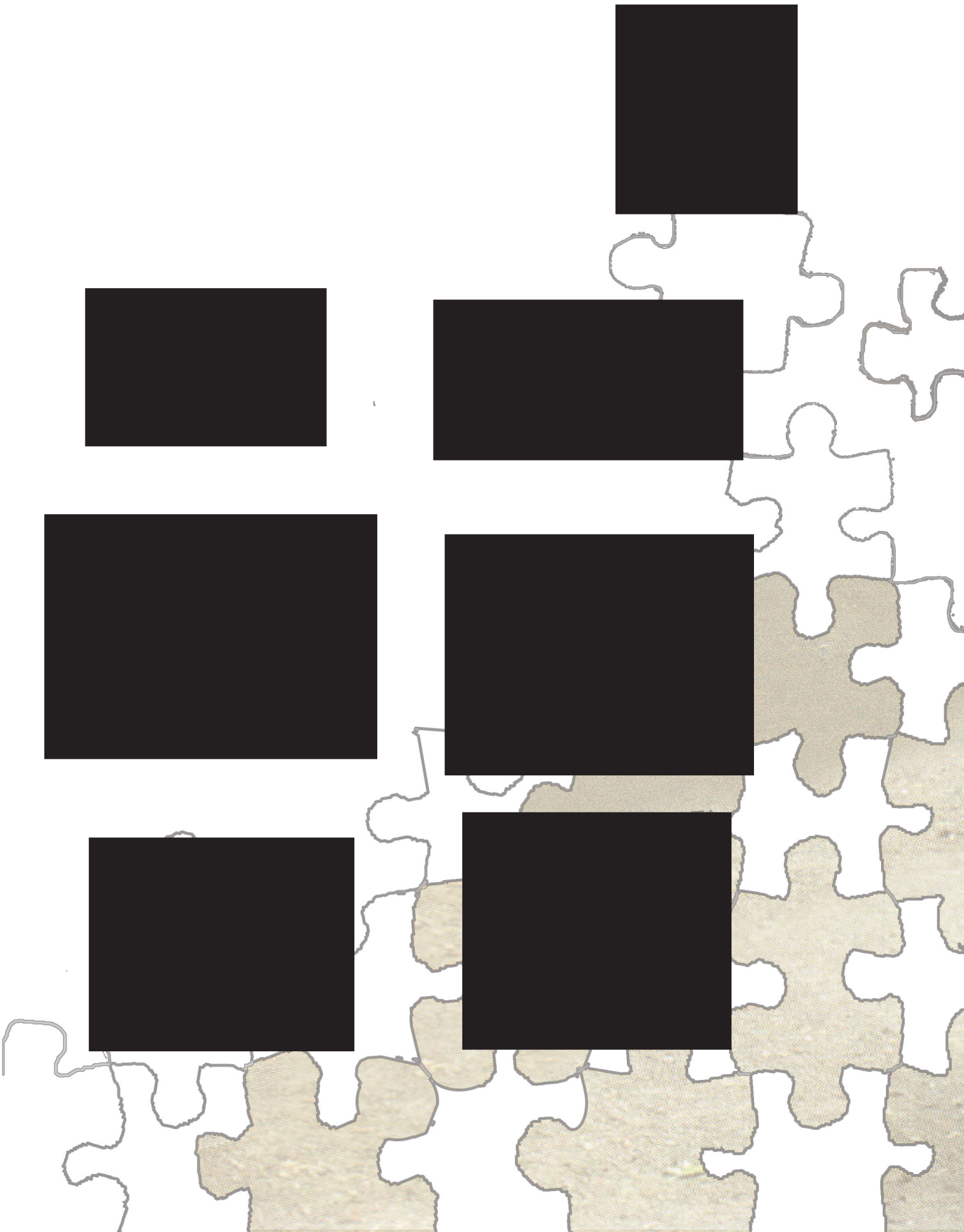


Personal Identification



Personal Identification

Lisa K. Jerke

I would like to dedicate this program to my parents, whom without, I would have never made it. Or at least it would have been alot harder. Thanks for always telling me to get my work done, giving me wake up calls, and

Most
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vl"
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meet,
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to be behind me every step from here on out.

Thank you and I love you!

I would also like to thank my one, and only, brother, Eric. Not many people are lucky enough to go to the same college at the same time as their siblings. But, I was. We've had some great times here at NDSU, and I know you will do great in your last year. Your pursuit of knowledge is unmatched-so never stop asking questions. By the way, thanks for all the rides and loans of money! Its great to have your own personal bank! You will always be my best fr
t our zip codes might be!

Lastly, thank you to a
family that have supported
t five years. You have
an definitely say, that th
u, I have had the best times of my life in college!

Night before thesis is due.

Working 'til the wee hours.

[redacted]

[redacted]

Leah & I in combat at Senior day.

[redacted]

Ladies at the Turf after Presentations.

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At the Turf for talls, darts and laughs.

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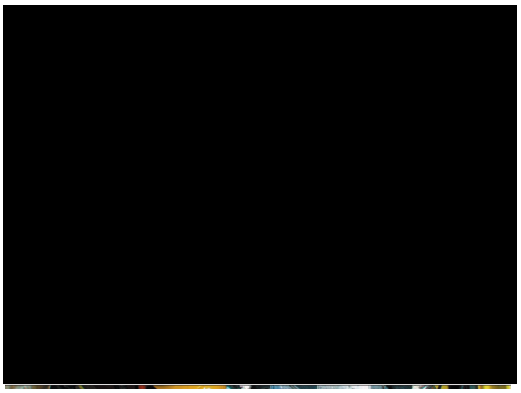
San Francisco.



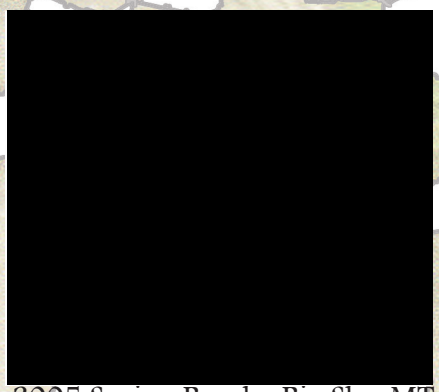
fighter, my little cousin Brett.

My brother, Eric, & I with our cat, Zipppity.

The Golden Gate, enough said.

With my favorite sisters, Jess and Katie.

Famous Painted Ladies Row Houses.



2005 Spring Break: Big Sky, MT.

Presidents Day 2005: Red Lodge.