

ABSTRACT

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Sustaining cultural values; past, present, & future: Past,
Present, & Future

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It is fundamental that culture is embedded within the act of communication and social interaction. This thesis will examine how architecture has embodied and reinforced a tribe's central notions about their society. A focus will be placed on past architectural traditions and continued changes in built forms. This will become the framework for a process where traditions are re_Introduced, re_Defined, and re_Interpreted in a contemporary context. Through analysis and interaction with the American Indian I will seek to understand how architecture(s) can play a role in culture and the definition of a community environment. With this research, I am looking for a deeper understanding of the built environment of the Northern Cheyenne through the context of the culture, community, and place. The focus here will be to explore the community as it relates to an "Indian's" definition of living and interaction within society. Design proposals will attempt to identify and clarify the ways in which the American Indian lives and operates in a world, seen and inhabited by Euro-American ideologies. The research and data presented will challenge the thesis to understand "Dwelling" as it relates to the physical environment, built environment, and the correlation between the two.

CULTURE | COMMUNITY | PLACE
Sustaining cultural values; past, present, & future: Past, Present, & Future

By

Joseph F. Kunkel

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Native American or American Indian?

I bring to your attention the usage between Native American and American Indian. In order to allow a clear discussion and debate throughout this thesis I would like to try and clarify the ways in which to identify America's Indigenous peoples. For some time now there has been a dispute in the ways which society has referred to the indigenous people of the Americas. So the question that arises is term American Indian synonyms with Native America, and can these two words be used in the same way that the terms black and African American are often used interchangeably? Or is using the term American Indian instead of Native American the equivalent of using Negro instead of black—offensive and demeaning? Using the politically correct term Native American is not only a convention and construct of the dominant Euro-American society, but can be broken down into many types of readings. For example the identifier "Native American" can be applied to anyone born in the Americas and thus is subject to ambiguous interpretations. It also is often trumpeted as being too sensitive a phrasing.

"I abhor the term Native American. It is a generic government term used to describe all the indigenous prisoners of the United States. These are the American Samoans, the Micronesians, the Aleuts, the original Hawaiians, and the erroneously termed Eskimos, who are actually Upiks and Inupiat, and of course, the American Indian.

"I prefer the term American Indian because I

know its origins . . . As an added distinction the American Indian is the only ethnic group in the United States with the American before our ethnicity . . . We were enslaved as American Indians, we were colonized as American Indians, and we will gain our freedom as American Indians, and then we will call ourselves any damn thing we choose."

- Russell Means, Lakota & founder of the American Indian Movement

While the usage of terms were once raging questions in the ways in which we as A People identify ourselves. We can now happily say that the use of terms has sorted themselves out. Over the years, the people whom these words are meant to represent have made their preference clear: the majority of American Indians/Native Americans believe it is acceptable to use either term, or both. Many have also suggested leaving such general terms behind in favor of specific tribal designations. As the publisher and editor of The Navajo Times, the largest Native American-owned weekly newspaper, puts it,

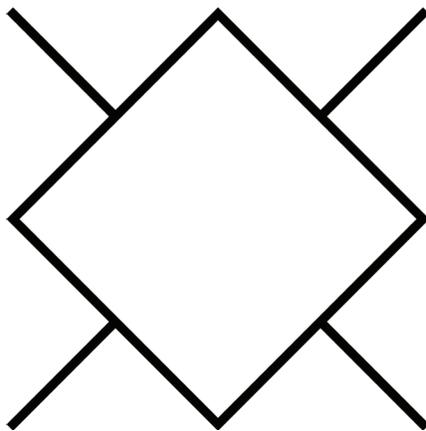
"I would rather be known as, 'Tom Arviso Jr., a member of the Navajo tribe,' instead of 'Arviso, a Native American or American Indian.' This gives an authentic description of my heritage, rather than lumping me into a whole race of people."

- Tom Arviso, The Navajo Times

“The American Indian is of the soil, whether it be the region of forests, plains, pueblos, or mesas. He fits into the landscape, for the hand that fashioned the continent also fashioned the man for his surroundings. He once grew as naturally as the wild sunflowers; he belongs just as the buffalo belonged...”

- *Luther Standing Bear, Oglala Sioux chief*

This is dedicated to
the Northern Cheyenne
People.



“We can no longer live the way we used to. There
is a new way of life that we are going to know

- Chief Dull Knife (Vooheheva)

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The following played crucial roles in this ever developing body of work.

Cara & Justin for experiences we've gone through, never a dull moment.

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Mom, for providing me with the tools to develop intellectually and as an individual.

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Overview

“The word sustainable has roots in the Latin subtenir, meaning ‘to hold up’ or ‘to support from below.’ A community must be supported from below – by its inhabitants, present and future. Certain places, through the peculiar combination of physical, cultural, and, perhaps, spiritual characteristics, inspire people to care for their community. These are the places where sustainability has the best chance of taking hold.”

- Muscoe Martin, “A Sustainable Community Profile,” Places, Winter 1995

A well known and often-cited definition of sustainability is derived from “Our Common Future”, the 1987 report of the World Commission of Environment and Development, which is also known as The Brundtland Commission, which states that “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” In the recent history of sustainability movement, sustainability has been described, metaphorically, as a three-legged stool, where “ecology”, “economy”, and “equity” represent the three legs. This metaphor has grown out of the National Center for Appropriate Technology’s (NCAT) three pillars of sustainable development: a prosperous economy, a healthy environment, and an equitable society.

In today’s world when we think about, hear, or read “sustainability”, many people automatically come to the con-

clusion that we must be talking about the protection of the environment, preserving resources, or safeguarding air and water. But, the roots of sustainability has a meaning which goes much further then the preservation of our environment and natural resources. The sustainability movement has evolved out of the environmental movement, which dates back to the beginning of the United States with people such as Thomas Jefferson, Gifford Pinchot, Theodore Roosevelt, John Muir, and Aldo Leopold. These prominent figures have provoked us to think about not only the generations beyond our own, but also about communities other than human, and about the relationship of differences which surrounds us in our everyday lives. These principles have been and are still the basic knowledge and thinking systems of many American Indian tribes.

Another aspect of the word “sustainability” that is seldom addressed is in terms of social or cultural. The definition of the word is in some ways reverts back true meaning of sustainability when discussing American Indian architecture. Tribal communities have suffered the imposition of western styles of building for decades. This is particularly inappropriate given the differences in approach to building between Westerners and American Indians. Research into this issue has been hampered by the inability of many Euro-Americans to understand American Indian peoples and their

ways of thinking about design, planning and constructing. This in most cases can be attributed to the educational systems many designers and planners have been exposed to.

Historically speaking, research documenting American Indians in general, and American Indian architecture in particular, has been accomplished by Euro-American researchers via their worldview and its Cartesian and Beaux-Arts educational foundations (Haile; Kluckhohn & Leighton, 1951; Reichard, 1950b, 1963; Vogt & Albert, 1966; Frisbie 1970, 1980; Gill, 1982; Farella, 1984). This is problematic given that many American Indians do not operate from or within this worldview. The outcome has been an intellectually ethnocentric presentation of how American Indians live and operate in the world, which is seen and inhabited by western ideologies.

In the past, researchers have viewed American Indian architecture from their own perspective, from an ethnocentric perspective that has for sometime been believed to be inherently superior to the group being studied. The Euro-American perspective or worldview has characterized, framed and defined in their own terms the physical and metaphysical, the natural and supernatural, the profane and sacred. Because of this split, researchers had to create their own understanding and representation for that which cannot be seen or understood. On the surface, this may not

seem problematic, but as the American Indian's worldview is considered and defined in relation to the built environment, this issue quickly becomes apparent. For this research it is important to clearly understand how the worldview of American Indians differs from a Euro-American worldview.

Problem Statement

Rarely has architecture been discussed in terms of a tribe's spiritual framework or the direct relationship the people have with the built form. The material and data gathered in this research will question the understanding of "Dwelling" and be broadened by examining the built form through a series of exercises performed onsite with the Northern Cheyenne Community. This will provide a framework for which will demonstrate ways of circumventing the ethnocentrism way of understanding the American Indian generally and the Northern Cheyenne specifically.

The information gathered, will help to reinforce and bring to light the current living/housing conditions on the reservation, which in some cases can be considered third world living standards. The approach taken in some means will question conventional gathering techniques, where there will be an effort to approach and understand the American Indian from a non-western point of view. Specifically looking at historical ways of living and how time and assimilation has affected ways of living in contemporary Indian society.

It is understood that this thesis is stating that there is a current need for quality housing, but in what ways can "quality" be defined? That becomes the question and challenge of the thesis when defining the broad bounds of this exploration. The hope here is that a new typology is

either potentially defined, or that a process of architectural thinking is defined, which can inform a American Indian way of building and living.

a culture of a people

What Makes a People?

A civilization is described as a group of people organized within a specific region that shares complex beliefs and systems allowing daily life to be carried out. Members within a civilization share similar characteristics that assemble and unify A People (or society). American Indians are often referred to as the first modern-civilization to incorporate social hierarchy, beliefs & religion, agriculture, communication, education, and history to create a fully functioning society. More specially, over the past four hundred years, The Northern Cheyenne people have incorporated these aspects and change as a society. Throughout the course of the tribe's existence, The Northern Cheyenne people first began as both seed-gathering and agriculturally inclined people, eventually migrating westward as they started hunting buffalo becoming a nomadic tribe, while maintaining their traditional agricultural ways.

Within certain social realms, it is believed that the Northern Cheyenne people have been a nomadic hunting and gathering Nation. What is described here are ways in which they migrated from north to south, following the herds of buffalo. The buffalo in some ways defined not only the Northern Cheyenne, but also the plains Indians as a whole. This wild animal gave the tribes everything from, their daily eating rations, to the hides, which covered the Tipi's, all the way to the bones which acted as both tools and jewelry.

What Makes a People?

This was an interesting point in history, because when we think back historically, many would be quick to define the Northern Cheyenne as purely hunter-gathers, when in-fact the tribes beginnings are widely known within its own culture as starting by cultivating the plains as both a seed-gathering and agriculturally inclined people starting just west of the Mississippi. It wasn't until the introduction of the Spanish pony the Mustang, which gave the Cheyenne the ability to hunt the buffalo.

This pony or "horse" gave the Cheyenne the ability to migrate westward to the Plains where the use of the dog became secondary as a means for gathering food. It was during these this time period that the Cheyenne became known for their horseback riding skills and their ability to train the horse. During the 1800's traders and neighboring tribes alike were attracted to horses trained by the Cheyenne. The Cheyenne in return used this as another tool to trade to both neighboring tribes and traders, in exchange for goods such as guns, cloths, and other raw material. Note, these facts become known not through book and lecture, but through word of mouth, past down from generation to generation, as is much of the Cheyenne history.

This is another telling part or the Northern Cheyenne

What Makes a People?

culture. Mainly because tradition was practiced orally, and it hasn't be until the past 65 years that the language has started to be documented and written down and translated into English. It is within this oral language that a lot of stories, native traditions, and ways of living where taught to younger generations.

When defining their society, language was and can be considered the basis of the Northern Cheyenne culture, why? Because it is within their language that we find the understanding social structure, and the clarification of religion, and the connection to their god Maheo. In many ways the structure of the Northern Cheyenne culture can be compared to contemporary ways of understanding the individual in the cosmos.

Beliefs & Rituals

The Beliefs of the Northern Cheyenne bases the tribes spirituality around framed around theistic ontology. Which according to Kenneth Morrison (Professor of Native American Religions), is arranged in a hierarchical manner from culture to nature to supernatural and includes references to deities, spirits, natural, forces, symbolic, sacred, profane, humans (as distinct from other-than-humans), animals, plants, gods, goddesses, ceremonial, supernatural to name but a few.

This is an interesting segue into how the belief system was set up in American Indians culture. For the most part many American Indians had a belief system very similar to the structure that of the Euro-Americans who for the most part forced Euro-American ideologies onto the American Indians.

When considering the spiritual beliefs of the Northern Cheyenne, many people outside the culture or knowledge of the American Indians, are quick to define Indians as a people who believe in many gods, or polytheist. When in fact, as stated above, many American Indians were monotheists, a people who believed in one god. This is misconstrued in the understanding of Indians beliefs because many times Western Culture would find the Indian praying in nature to a object created by nature. For the Indian this is understood to an object, which is at that point in time sa-

Beliefs & Rituals

cred. It can be translated into a Euro-Western understand as an “alter” one would find in a place of worship. So in many ways the object which the Indian is praying to, is in fact not an object of worship, but an object which that becomes the tool necessary to communicate to Maheo, similar to the alter.

Old vs. New (compare) – effects within society therefore fall onto structure (social aspect as well physical structure. St. Labre Indian Mission for example). Before the Euro-Americans (Anglo-Saxons) forced their own beliefs on the Indian Tribes, believing and truly thinking that it was their own beliefs, which would save the Indians from a future of despair, but despair from what? This is the question of debate, because in many instances it was believed that the Indian praying to nature, was the Indian praying to the devil. So it was the task of St. Labre Indian Mission, and other white settlers to save the Northern Cheyenne, and convert them to the beliefs of the church.

This becomes a complex topic of discussion, mainly because it is at this point in history that the Northern Cheyenne are further introduced to the effects of assimilation through the establishment of St. Labre Indian Mission at the start of 1884. This establishment of the Catholic faith on the tribe started to separate the understanding of religious faith, and the acts of everyday life. Where historically the Chey-

Beliefs & Rituals

enne ways of spirituality (religion) and the Cheyenne ways of interacting with the everyday were considered the same. Today the Northern Cheyenne are considered a very spiritual people, and many people on the reservation place themselves into this category, but the interesting note here, is that many don't consider themselves to be a religious people. This is due to the fact that many (not all) on the reservation believe that it is not necessary to practice a religion that separates the everyday, but integrate the beliefs of the cosmos and the human being into the practice of everyday. So there is not a distinction, but a blurring that integrates culture, society, and spirituality. Currently (and historically) this is the spiritual belief system of the Northern Cheyenne, where this type of thinking and interacting is becoming more and more prevalent on the reservation today.

Architecture

Rarely has architecture been discussed in terms of a tribe's spiritual framework or the direct relationship the people have with the built form. Peter Nabokov and Robert Easton (Native American Architecture) describe indigenous architecture in terms of formal built structures, much like the way students of architecture learn in school. What is imperative is that the study of American Indian architecture incorporates the spiritual knowledge of the people who built/build in the environments they dwell in.

This becomes an important point to re-enforce, mainly because the current pedagogy in architectural study does not lend it's self to analyzing or critiquing of a non-Euro-Western typology of architecture. So it's crucial to question how to re-introduce or re-invent an architectural vocabulary for a Native way of building and reading the built form. Particularly on the "reservation", and this could be identified in the broadest sense, with the Northern Cheyenne reservation being the case study that this thesis will focus on.

In order to do this the analysis of past historical forms must be considered, before contemporary methods can be proposed. The identification and clarification of the how space is understood will be considered the typologies of the everyday dwelling as well as the sacred formal spaces. It would be the hope that this thesis will draw from these studies an understanding of spatial relationship that is rich

Architecture

in the complexities of hierarchy and organization. Further more, the patterns of historical forms and spaces will help to inform contemporary means of addressing space.

Historically speaking the tipi was a common form when referencing the Plains Indians . This formal dwelling lodge is representative of the American Indian's way of living on the Great Plains for more then one hundred years before the introduction to the white man. In many ways the Tipi can be considered a poetic answer to a means of dwelling. Its ability to house a family of four to fifteen people comfortably in any weather condition year round is an astounding feat. Particularly considering the conditions of the Great Plains during the harsh winter months.

The structure of the Tipi is unique architectural structure, with a series of slender poles around three larger poles organized in a tripod fashion. These poles could be erected within in minutes, with the whole Tipi structure assembly completed in twenty to thirty minutes, depending on size and weather conditions.

A typical Tipi size contained about twelve to fourteen skins, and these skins usually came from the hides of buffalo or deer. The fire was made in the centre of the Tipi, immediately under the aperture in the roof, which was created by the crossing of the structural poles. A flap of the

Architecture

upper skins is closed or extended at pleasure, serving as a chimney-top to regulate the heat within the Tipi and allow the smoke to escape freely.

The custom of facing the tipi to the east, towards the sunrise, is a religious or spiritual part of the Northern Cheyenne culture, though used whenever possible, it is a notion of religion and not practicality. Therefore this understanding of orientation to the east must be remembered as a relationship to spiritual belief, and that the Tipi was first and foremost a dwelling that people lived in and not a religious structure, unless converted into one. This is not to say that the orientation did not serve as importance, yes it was and still is a notion of spiritual belief. In contemporary practice it is important to note, that a symbolic or important space within the household could identify with the east, whether it be the entrance to household, or an important communal space.

It's important to also understand the organization of the interior space of the Tipi. When defining the space within, it becomes apparent that the division and definition of space is very subtle. The space to the opposite end of the entrance was usually set aside for the head of the family (this was typically a grandfather as defined by today's terms) or for the male and female (parents). On either side of the fire where defined spaces set aside for the children or

Architecture

the male/female couples under the head of the family. The spaces in within the tipi can be considered de-personalized, where the focus of space is on the whole, and not the individual. Therefore a communal understanding and definition of space is prominent.

Now the architecture of the Tipi is not only concerned with the space of the individual, but that of the composition of Tipi's. Here when grouped together, the Tipi's start to form what is called a cluster. This formation can be considered an urban form to an extent, similarly like grouping of houses that form a block. It's this urban form that becomes important in understanding how social and communal spaces are used both at the relationship of the individual and the relationship of the community.

The cluster is most often in the form of a circle. Now the circle plays an important role in the spiritually, as it does in most Native cultures, because it is the circle which relates to the four cardinal directions. The Circle of Life, the four seasons, and so on. It is this shape and or pattern that most of Native typologies are modeled after because of these reasons.

This urban cluster is formed around a circle, and the space in between is considered a multi use, communal space. In some instances it can be used for ceremonial pur-

Architecture

poses, but for the most case it was a space where horses where kept, and people gathered. Consider the diagrams below for typical cluster forms.

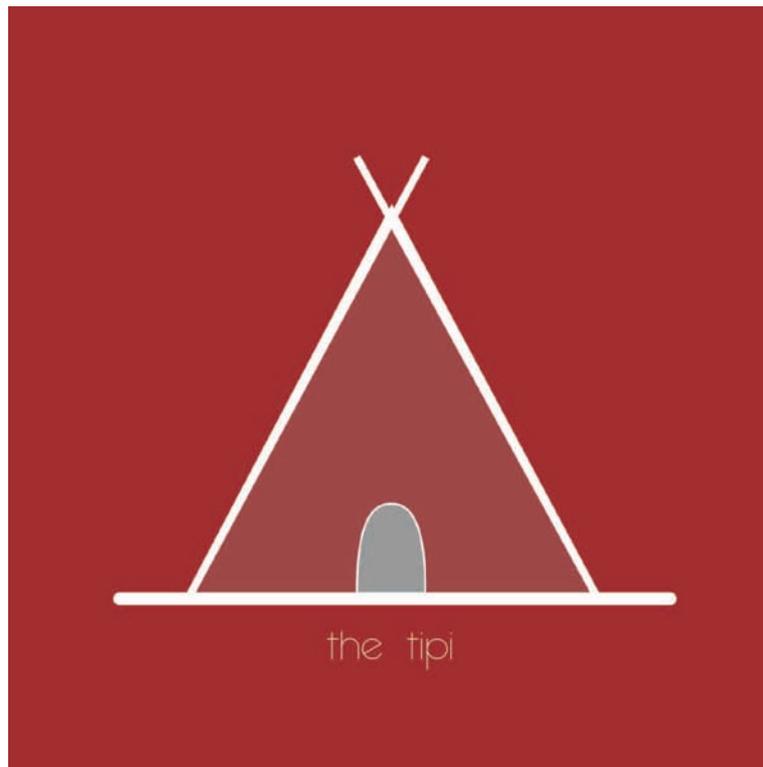


Figure 2. Tipi Graphic



Figure 3. Cluster Graphic



Figure 4. Cluster Graphic 2

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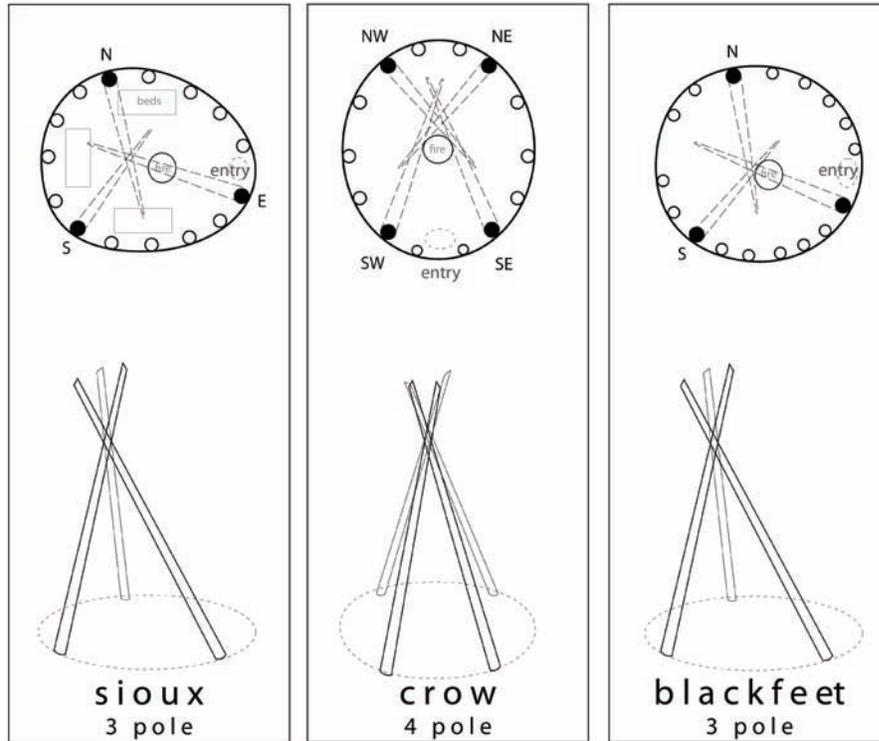


Figure 5. Tipi diagram of Sioux, Crow and Blackfeet

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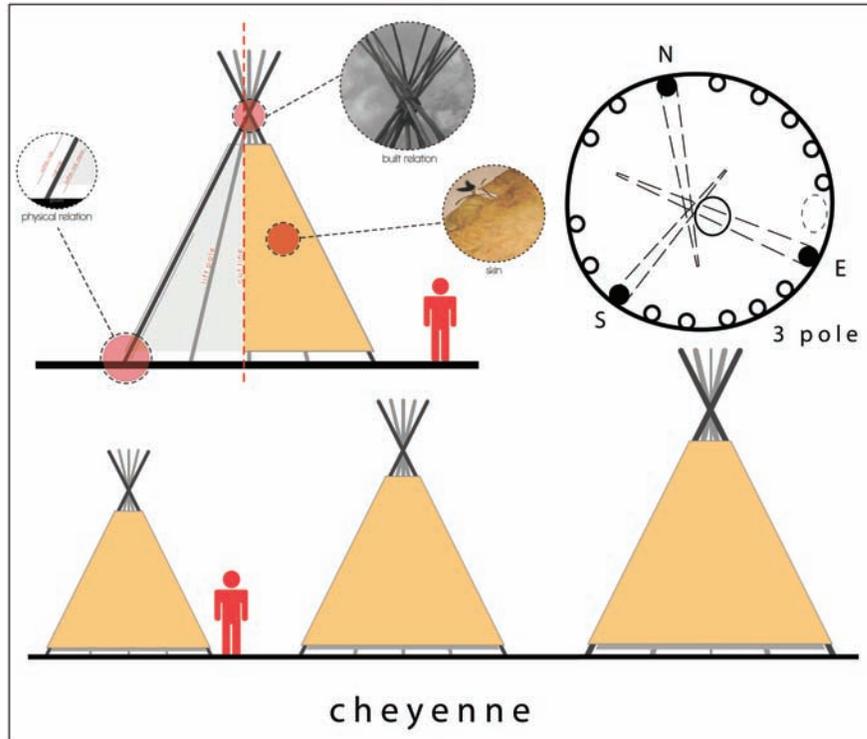


Figure 6. Tipi diagram of Cheyenne

a culture of a people

Architecture



Figure 7. Circle encampment, 1878, National Geographic

Architecture



Figure 8. arch_679 photo,
sweat lodge (top), Sundance
Lodge (bottom) Alick Dearie &
Peter John,

Economics

NOTE: It is difficult to clearly write about Economics without having to define Government entities. So I will start within defining how poverty is in direct relation to a tribes tie to United States Government dependence.

There are six major federal agencies that conduct Native American programs and whose budgets are the largest concerning Native American Programs. (I use “Native American” here because when dealing with the Federal Government, the programs are referred as Native American Programs, and not American Indian Programs.) These agencies are as followed: The Bureau of Indian Affairs (BIA), within Department of the Interior (DOI), bears the primary responsibility for providing the 562 federally recognized Native American tribes with federal services. The Congressional Research Service found that between 1975 and 2000, funding for BIA and the Office of the Special Trustee declined by \$6 million yearly when adjusted for inflation.

The Indian Health Service (IHS) is a government entity that is responsible for providing health services to the 562 federally recognized American Indians, and Alaskan Natives tribes in 35 states. The IHS is the principal federal health care provider and health advocate for approximately 1.5 million Indian people, and the agencies goal is to raise

1 U.S. Commission on Civil Rights, “A Quiet Crisis: Federal Funding and Unmet Needs in Indian Country,” 2003

2 The Indian Health Services Agency, 2009 <http://www.ihs.gov>, [accessed 15, May, 2009]

Economics

the American Indian health status to the highest possible level. According to an Executive Summary statement published in the 2003 United States Commission on Civil Rights (USCCR) analysis report on “Federal Funding and Unmet Needs In Indian Country, A Quite Crisis”, Native Americans have a lower life expectancy than any other racial/ethnic group and higher rates of many diseases, including diabetes, tuberculosis, and alcoholism ⁵.¹ This can somewhat be in direct relation to health facilities provided and the relative distance in which medical treatment is. Most clinics are medically inadequate, and cannot perform specialty services that are specifically concerned with the diseases stated above. The federal government spends less per capita on Native American health care than on any other group for which it has this responsibility, including Medicaid recipients, prisoners, veterans, and military personnel ¹.

The Office of Native American Programs (ONAP), which operates under the Department of Housing and Urban Development is tasked with the general welfare by meeting the national goal of providing decent, safe and affordable housing for lower income Native American, Alaska Native and Native Hawaiian Families ³.

¹ U.S. Commission on Civil Rights, “A Quiet Crisis: Federal Funding and Unmet Needs in Indian Country,” 2003

³ Department of Housing and Urban Development, 2009, <http://www.hud.gov>, [accessed 15, May, 2009]

⁴ National American Indian Housing Council, 2009, <http://www.naihc.net/news>, [accessed 15, May 2009]

Economics

According to the National American Indian Housing Council (NAIHC) an estimated 200,000 housing units are needed immediately in Indian country, with an approximate 90,000 Native families homeless or under-housed⁴. Approximately 54 percent of on-reservation housing is considered to be inadequate and on in five reservation homes lacks complete plumbing ⁴. The numbers start to talk to the overcrowding and substandard conditions found on Reservations:

- In tribal areas, 14.7% of homes are overcrowded, compared to 5.7% of homes of the general U.S. population. (Census Bureau, 2000)
- Lack of Plumbing: On Native American lands, 11.7% of residents lack complete plumbing facilities, compared to 1.2% of the general U.S. population. (Census Bureau, 2000)
- Lack of Telephone Service: 16.9%, compared to 2.4%. (Census Bureau, 2000)
- Lack of Kitchen Facilities: 11%, compared to 1% (Government Accounting Office, 2005)
- Lack of Utility Gas: 72%, compared to 49% (Government Accounting Office, 2005)⁵

Now the primary funding for Indian housing is pri-

⁴ National American Indian Housing Council, 2009, <http://www.naihc.net/news>, [accessed 15, May 2009]

⁵ NAIHC figures based on Annual Performance Reports from tribes, 2007

Economics

marily funded through the Native American Housing Block Grant (NAHBG), which reports a sixth straight year where funding was cut or minimally increased in relation to inflation. Again the numbers start to identify the lack of continued funding for Indian Housing: During the 2002 fiscal year (FY02) the NAHBG was funded at \$650 million, nation wide for Indian Housing. By the FY05 funding dropped to \$622 million, where approximately \$340 million was designated for new construction leaving \$282 million for improvement to current living conditions⁵. The average cost of a new home on a reservation is \$125,000⁶ with construction cost varying depending on the location of the reservation. For instance the more remote the site cost of the new home dramatically increases.

To further clarify all funding from the NAHBG is designated for federally recognized tribes, and the NAIHC has 253 member housing entities representing the 454 of the 562 federally recognized Tribes, making it difficult for the 108 Tribes to qualify for funding. (As of June 2006)

While the larger government agency HUD has tried to make efforts to improve housing on the reservations, the lack of funding through grants and government programs has hindered the progress. Not only has Federal assistance hindered the housing problems on the reservations, but also

5 NAIHC figures based on Annual Performance Reports from tribes, 2007

6 U.S. Department of Housing and Urban Development [HUD], 2003

Economics

the ability for the Native American population to obtain access to credit due to the Tribal land ownership situations, geographic isolation and environmental conditions found on reservation lands. The HUD Section 184 Indian Housing Loan Guarantee Program (IHLGP) lost nearly 70 percent of its purchasing power over the last four years, and the NAHBG has lost funding for the past seven years in a row⁷.

Congress in 1995 initiated what has become to be known as the Native American Housing Assistance and Self-Determination Act of 1996 (NAHASDA), the program that NAHBG is the economic backbone. Since the establishment of the NAHASDA around 60,000⁸ families in some capacity have been helped in ways, which include, down payments assistance, rental assistance, home rehabilitation, and new home construction.

⁷ National American Indian Housing Council, 2009, <http://www.naihc.net/news>, [accessed 15, May 2009]

⁸ National American Indian Housing Council, 2004 Housing Survey, 2004



Figure 9. Diagram: a) tipi and b) typical ideology of an American house

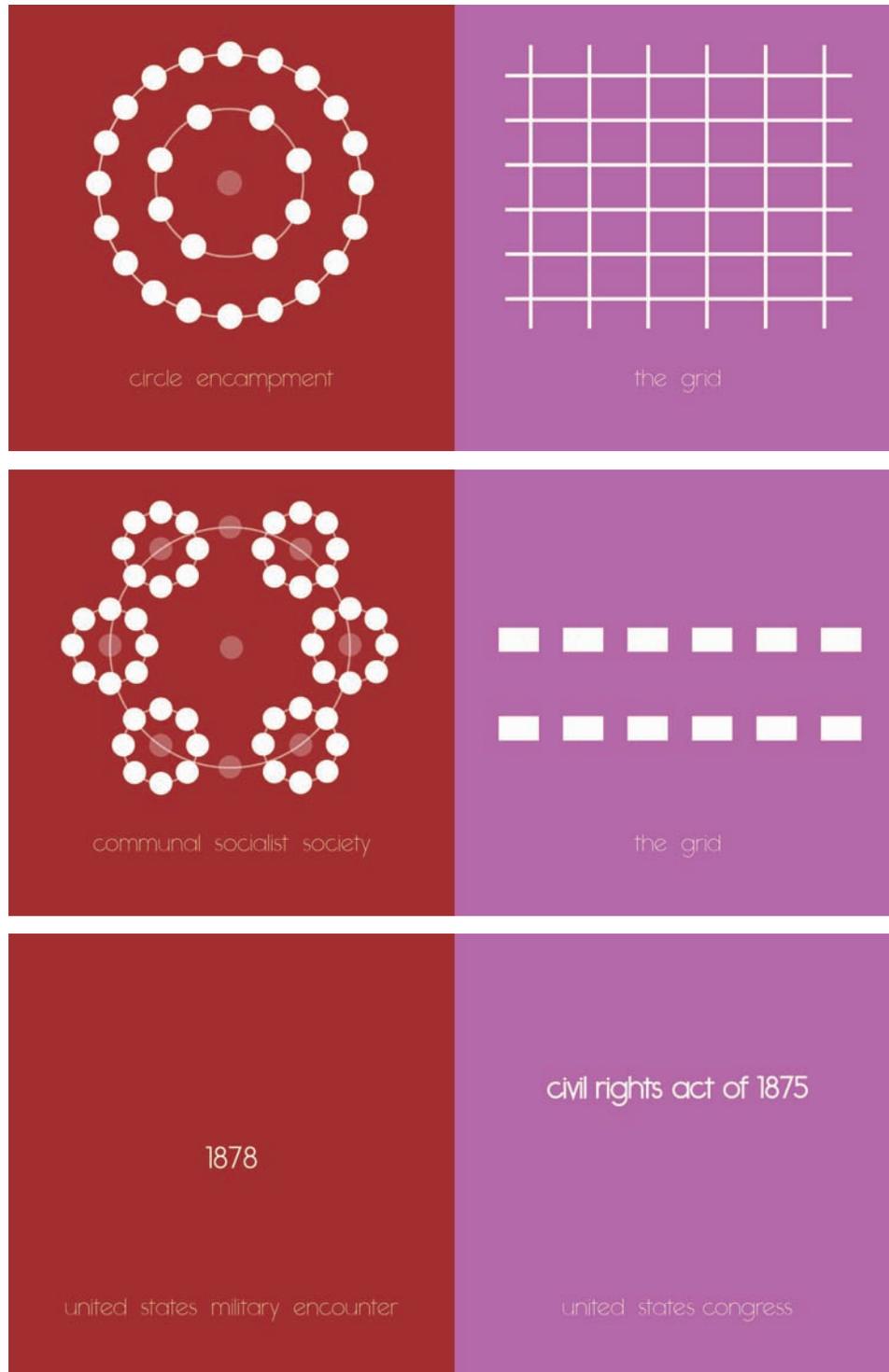


Figure 10. (top) Diagram: a) circle encampment b) the urban grid
Figure 11. (bottom) Diagram: a) circle encampment society clusters b) the urban grid as line

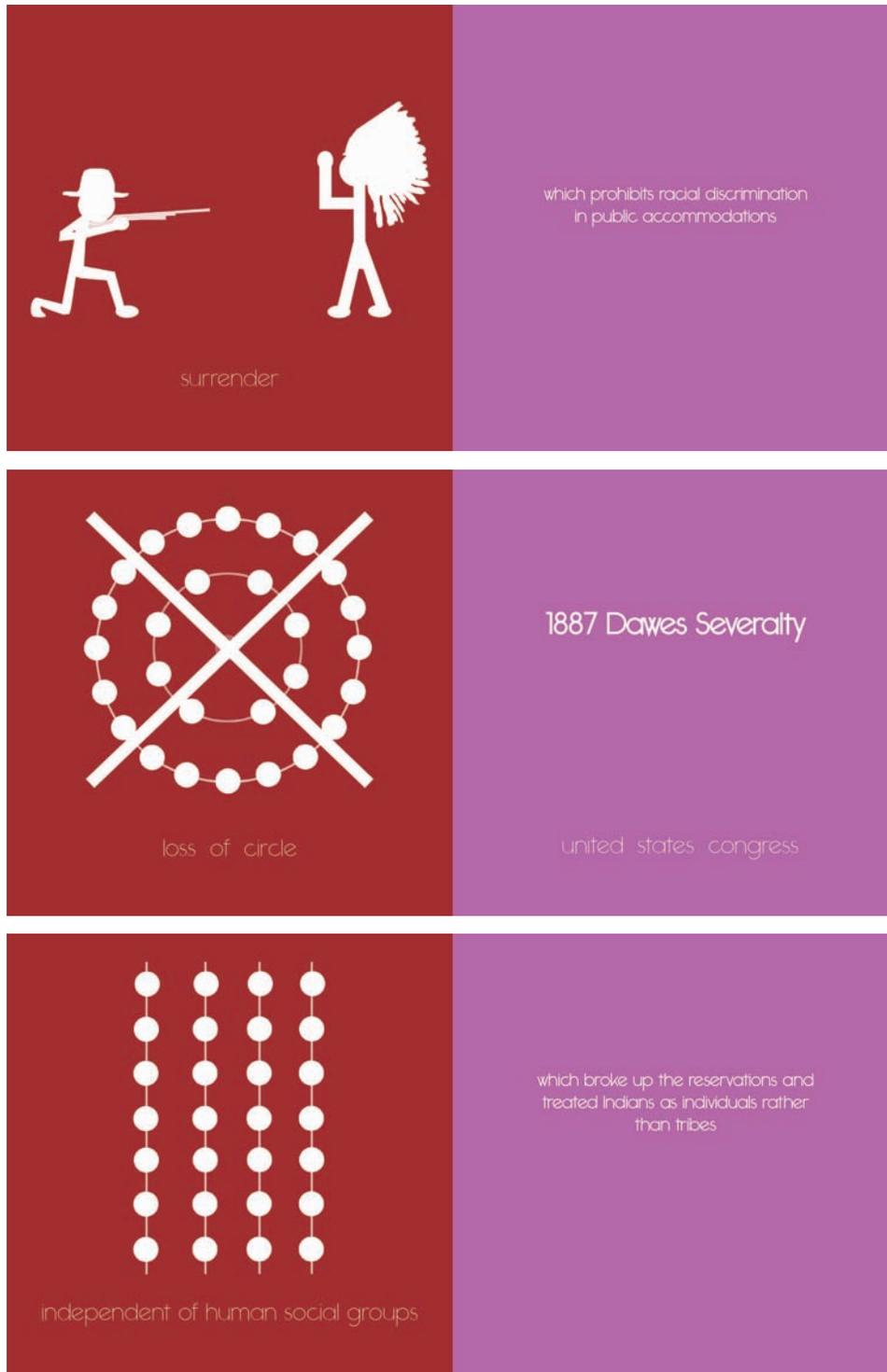


Figure 12. Diagram: Indian surrendering to United States Cavalry

Figure 13. Diagram: the loss of an urban form, the cluster

Figure 14. Diagram: reintroduction of the grid on the Indian

social analysis

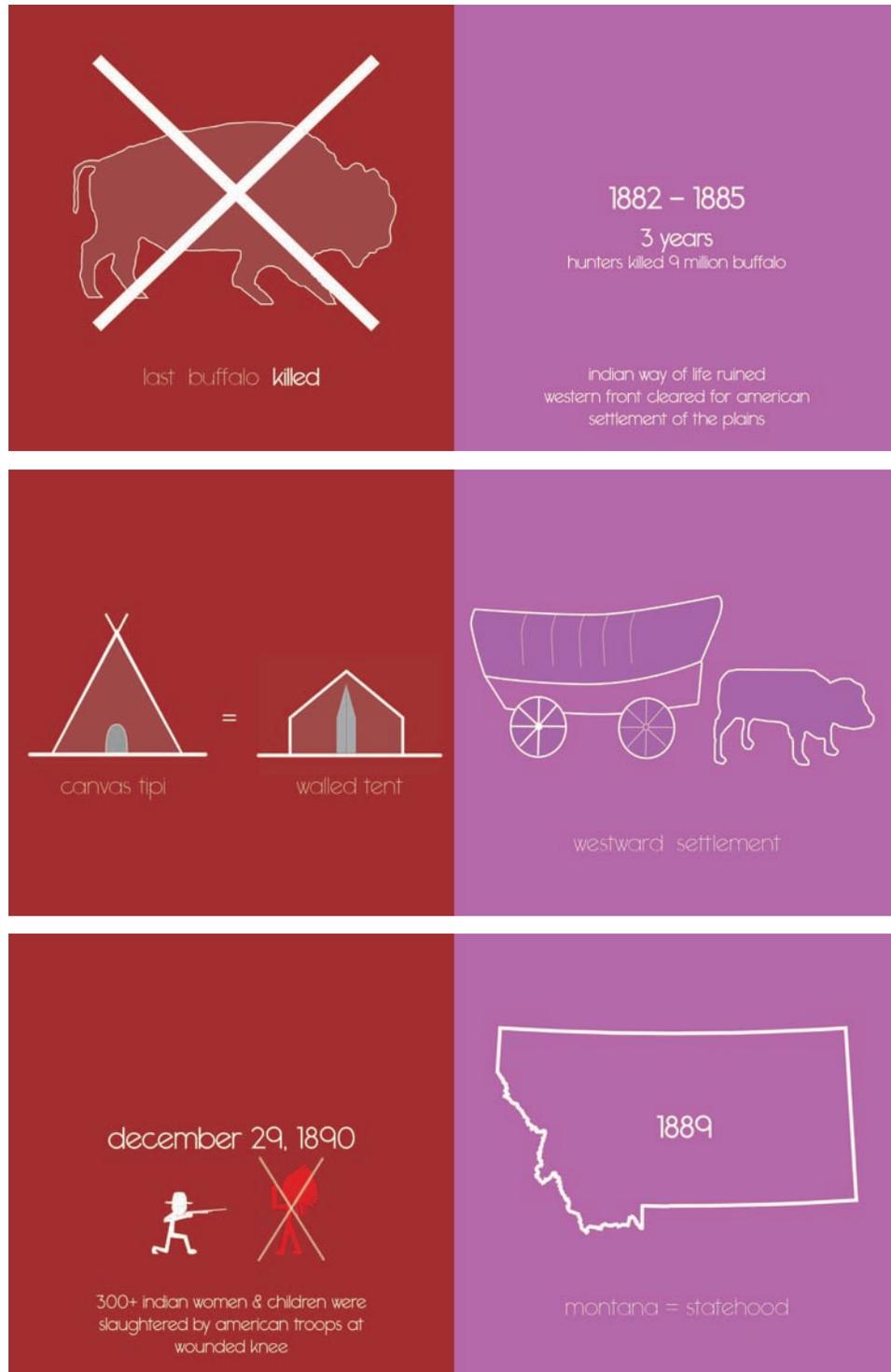


Figure 15. Diagram: (top) loss of the buffalo (middle) transition from tipi to walled tent (bottom) a) Wounded Knee b) establishment of a state (Montana)

social analysis

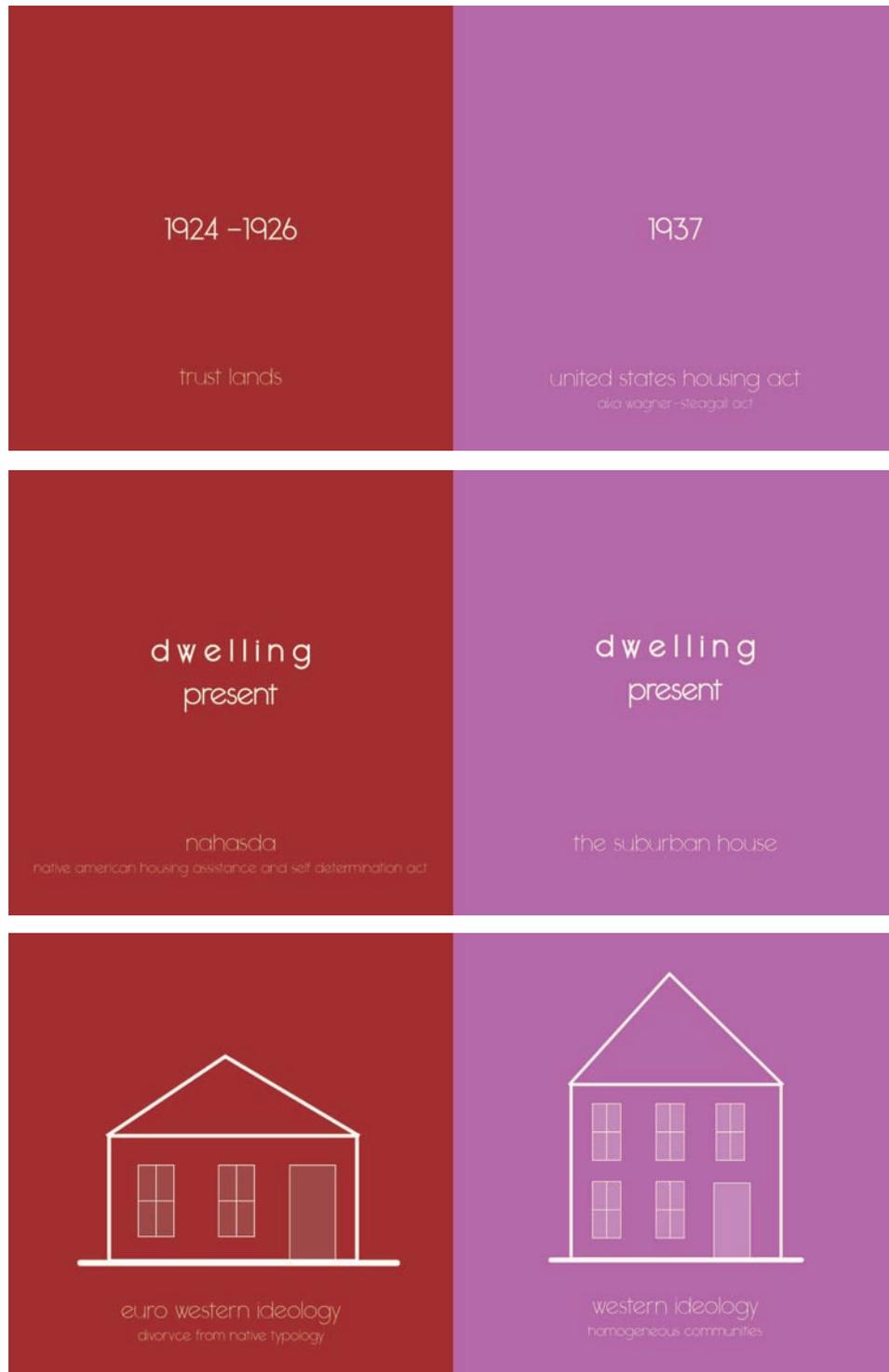


Figure 16. Diagram: a) Western ways of living, divorce of euro typology
b) current understood typology



Figure 17. Diagram: a) Cheyenne translation of current housing
b) Western translation of current housing
Figure 18. Diagram: weekly housing studies

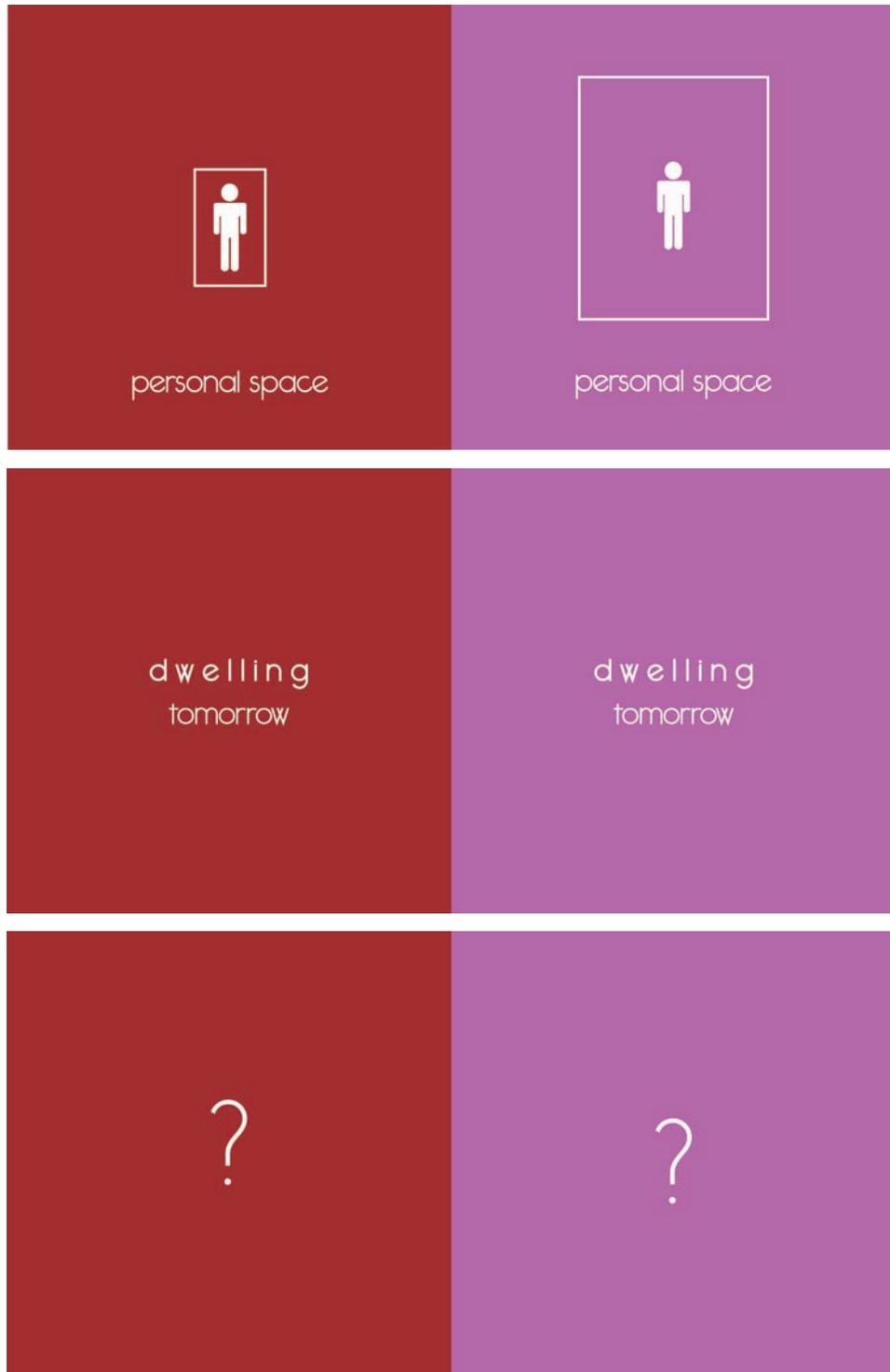


Figure 19. Diagram: understanding personal space

The site is the Northern Cheyenne Reservation, situated in southeastern Montana. The tribal lands encompass approximately 444,157 acres and is 99% tribal owned. The Northern Cheyenne has approximately 9,496 enrolled members with about 4,135 residing on the reservation. There are five official districts on the reservation now. The Crow Reservation defines the western edge of the reservation, and the eastern edge is defined by the Tongue River. There is a large timber ridge in southeastern Montana, which runs through Tribal Lands, this has been a source of revenue in the past, but currently has ceased due to the lack and mismanagement of the timber industry.

The main modes of transportation are along Highway 212, which cuts through Tribal Lands from east to west. Semi-trucks and commercial transportation heavily use this main road. So there is a strong dependency on the vehicle for means of transportation. The major city Billings is to the North East, and is about 150 miles from the Reservation.

The five districts are as follows, from east to west Ashland, Birney, Lame Deer, Muddy, and Busby. Each of the districts is defined by their historic encampments, and each where usually known for a distinct reason. The Cheyenne families that settled in Ashland were socially distant from the rest of the tribe, known as stubborn and shy people, only coming out when something of importance

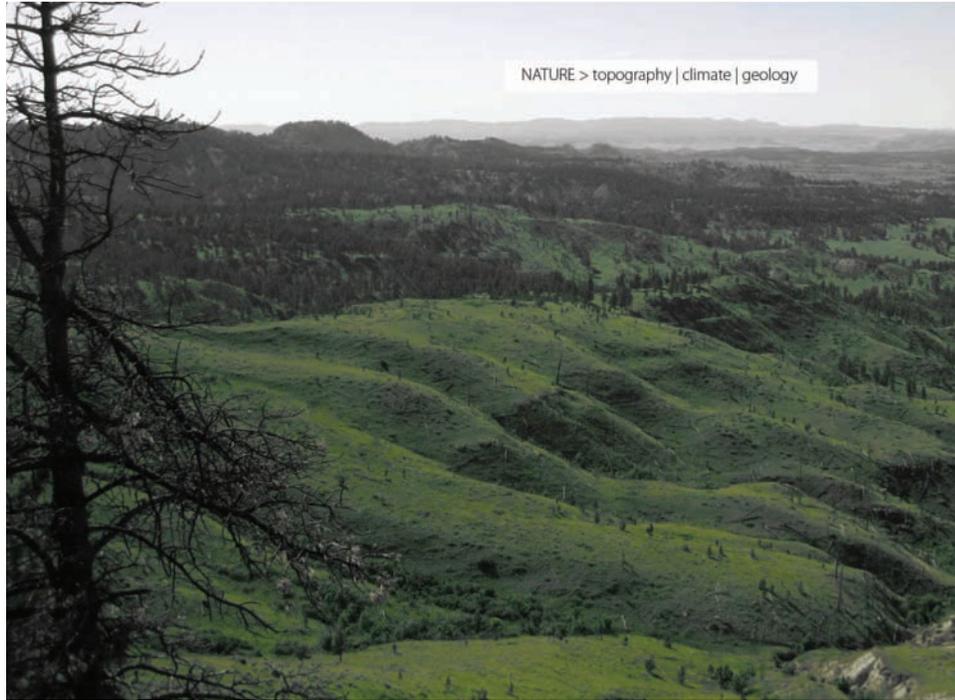


Figure 20. arch_679 photo, Reservation Lands



Figure 21. arch_679 photo, Buffalo grazing

was going on. Their district therefore got the name Rabbit Town, referencing the rabbit that would only come out during important times. Birney, is a district that is very barren with no trees and very little vegetation. The only thing that historically grows in this part of the reservation is peyote and cacti. Today there is a small population in this part of the reservation. Lamé Deer was named after Chief Lamé Deer, and is the where the Tribal Council and Bureau of Indian Affairs resides. It is here in Lamé Deer where the largest populations of Cheyenne's reside. Muddy District can be found just over the hill just to the west of Lamé Deer, The District's name came from the abundance of mud holes that were found in the area, this was especially important during winters, because in the mud hole salt sage grew where the Cheyenne's could feed their horses during the hard winters.

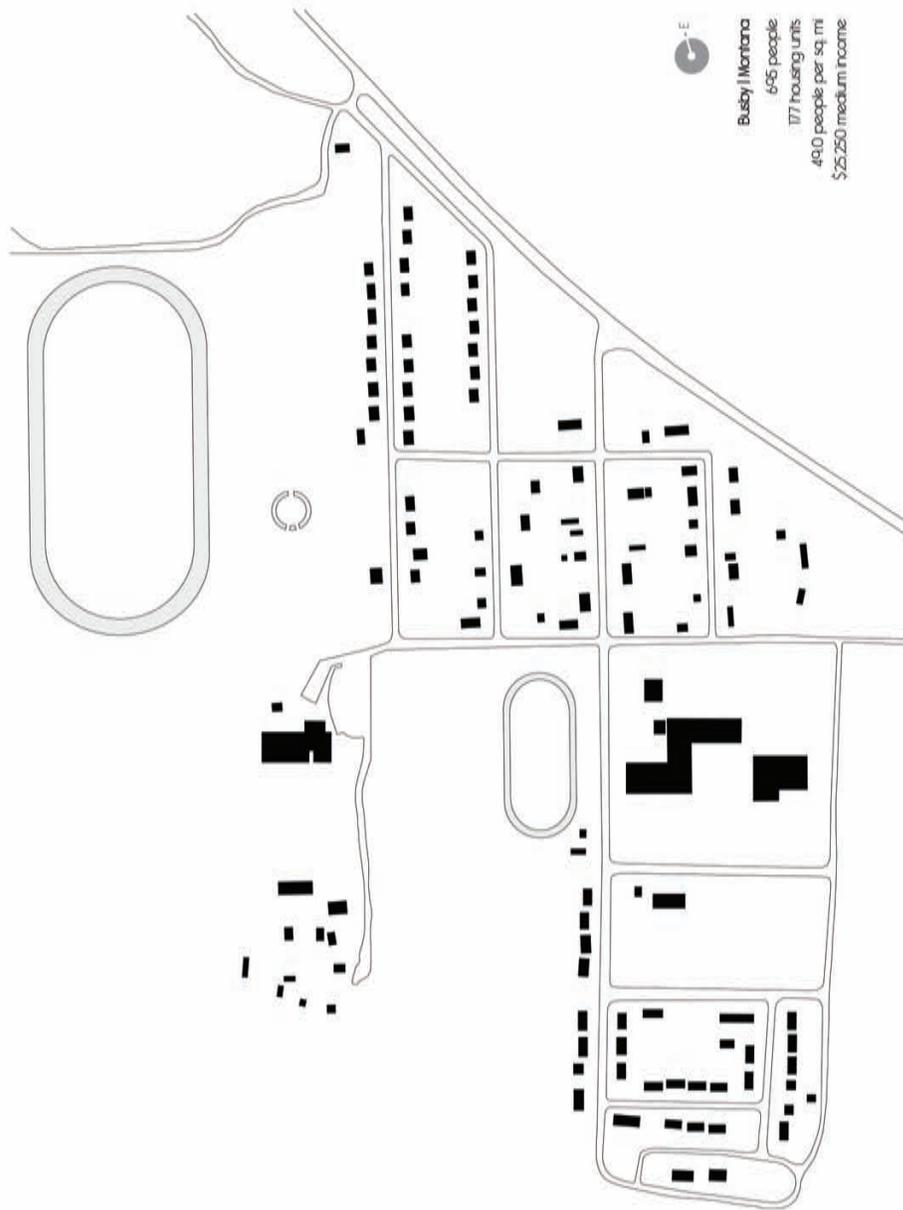


Figure 22. existing site drawing, Busby, Montana

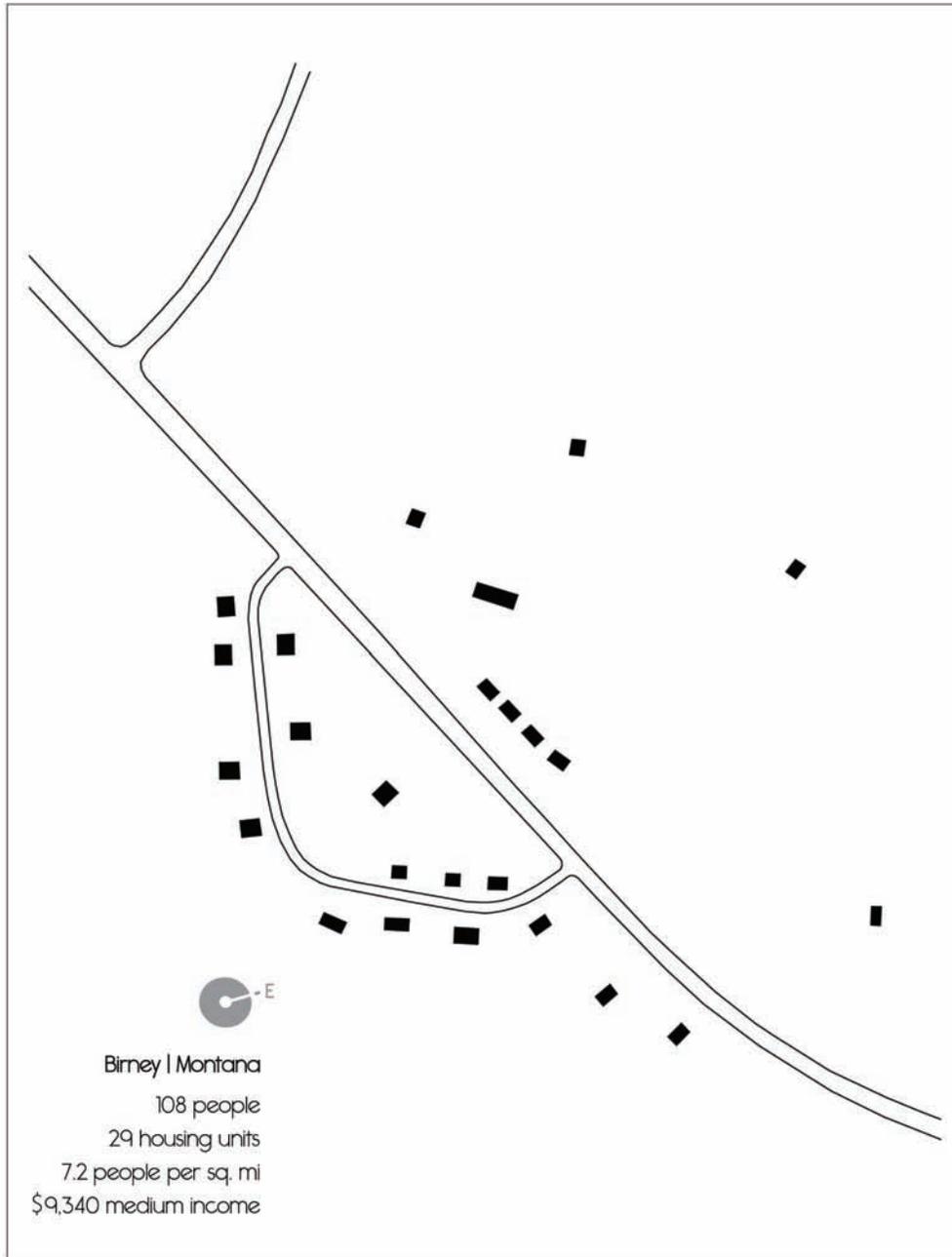


Figure 23. existing site drawing, Birney, Montana

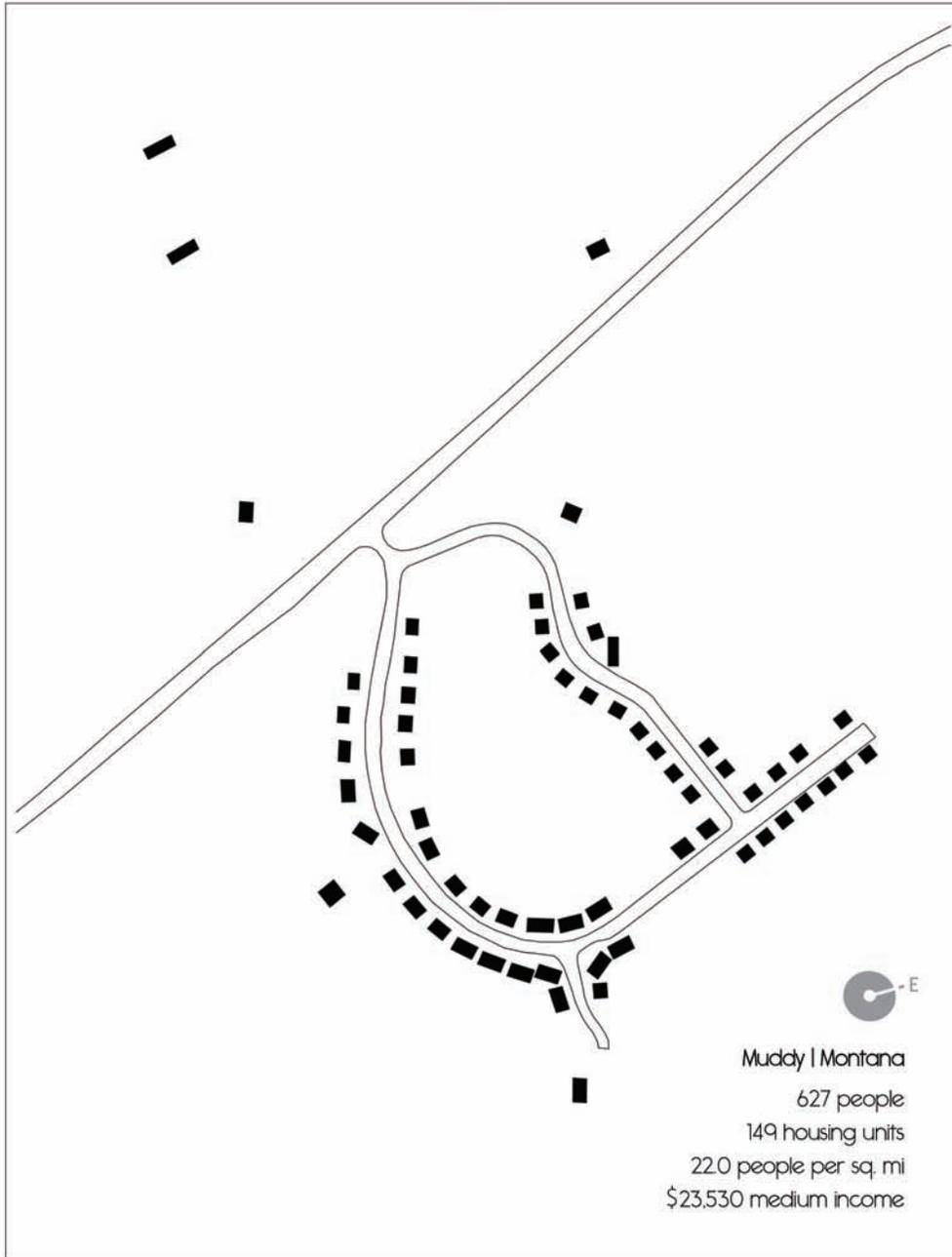


Figure 24. existing site drawing, Muddy, Montana

assimilation of a people

Lands LOST

It is at this point of the thesis that the concepts of boundaries are introduced and defined in the terms of Native culture. In the Northern Cheyenne language defining what boundaries are, and still to this day there is no word or words that describe ownership. This is a cultural understanding that is taught at an early age. As a young Cheyenne boy growing up in a clearly white world, I was taught that we as humans don't have pure ownership of the lands we live on. Still to this day this concept is hard to grasp, because in modern society we all want to elevate ourselves to owning stuff, weather it be owning a house, a condo, etc. This notion of ownership is something we all strive for, because at the end of the day it reinforces how successful we've become.

This is not so in an Indian's culture. Owning things, (specially not land) does not display how successful one has become. Success is not a quantifiable thing. Therefore defining land in terms of who owns what was never in question historically speaking. Therefore the Northern Cheyenne in their minds never took ownership of the lands, they used the lands for living and this was universally understood among all plains Indians.

Then it was the interaction with the White Man that brought this notion of "ownership" into conversation, again a term not understood by the Indians. The White Man took

among themselves to define who owned what, placing the Indians on allotted lands defined by the government. It was at this point that the free lands the Plains Indians once knew were no more. They no longer had the ability to use the lands as they wished. Land that was once known as free for everyone to use, now had set boundaries, and life as the Northern Cheyenne, and the rest of the Plains Indians knew was no more.

assimilation of a people

Language LOST

Cheyenne language. The language (and its decay) creates a gap in history. The gap can be better defined as a split between the elders and the rest of the Northern Cheyenne population. It is understood and as is defined earlier in this document, the Cheyenne language is an oral language and only until recently has it been turned in to a written language. It is within the language that there is a depth of history and cultural knowledge, that can only be passed down if there are people that know the language and can translate and record it. This effort in some means is not to really save the language itself, but to save the stories and cultural knowledge that is embedded in the language. It is a well known fact within the Northern Cheyenne community that the Cheyenne language is dying, but there is an effort to try and preserve the culture and stories that teach the youth of the Cheyenne, how to be true to their own heritage. This is easier said than done

The language itself creates a social gap between the new and the old, the elders and the youth, the North and the South of the Tribe. This is because many of the elders don't feel comfortable passing on the stories of their history to the Cheyenne's who don't speak the language. Why? Because there are words and meanings within the Cheyenne Language that simply cannot be translated into English without being misconstrued. Another reason is that Elders simply

don't want the stories to be told in English, they rather have them past down via their traditional way, in the Cheyenne language. In some ways the Elders are right, there should be a priority put on learning their native tongue, in another light there should be a priority in trying to preserve the stories and heritage that is behind the language itself.

The task of the thesis is not to solve this problem, but in some ways it is a social aspect that cannot be shunned. It is though a goal to propose ways in which the generations are more suitable to interact and communicate at a levels where these stories and Cheyenne ways are past down, and are continued to preserve a cultures way prospering.

living on the Rez

Definition of a reservation: American Indian reservations and trusts lands are sovereign entities with a government-to-government relationship with the United States, yet U.S. federal authority can override tribal law. Indian lands are not subject to state or county jurisdiction.

(American Indian Country, 2005 p. 107).

Reservations are located in remote places and the largest ones are nowhere near major metropolitan areas. This has resulted to hard living conditions because the ability to obtain jobs has become hard for most who live on the reservation. Many people have reverted to their monthly per-capita payments to live on which continues the cycle of living without the means to prosper. This results in poverish living condition, which over the years has become the norm.

This “norm” has turned into the ability to live from day to day off per-capita payments and has resulted in an on going life cycle of no work. This has snowballed and grew into a larger problem where a population with no work and a whole lot of time on their hands becomes self destructive to a culture. More or less people from the outside world from off the reservation start to see the conditions of a “Third world” right here in the United States. In some ways it’s hard to believe but the research gathered support these clams. The images and information presented below help to clarify in the perspective of outsiders how people are cur-

rently living on the Northern Cheyenne Reservation.

The interesting fact here is that as stated in “Site” portion of the document, the reservation lands are still held in trust by the Tribe, and approximately 99% of the reservation lands still belongs to the Tribe as a whole. This is a strong a testament too the care the Northern Cheyenne people have for their lands. No matter how poor they are as a people, they consider themselves rich in land, when the day has ended and the Cheyenne still have their land. Lands that they fought hard and long for during the battles with the US Calvary during the late 1800’s.

Conditions



conditions

current state of housing on the reservation

> Most of the current reservation housing construction took place between 1979 and 1988, under HUD (Housing and Urban Development) through the MHHO Program (Mutual Help and Homeownership Program). The homes were built with wood foundations, and the wood products used to build the foundations were chemically treated with arsenic and other toxic chemicals. During the ensuing years the foundations were found to be vulnerable to moisture accumulation and structure instability. Today some of the houses are uninhabitable due to toxic mold and dried sewage residues. Residents have been advised to leave their homes for health reasons, but most cannot due to lack of affordable housing options in the surrounding areas.



approach

> Analyzing the question of quality and in relation to the Western ideology: Looking at quality in terms of size and material finishes, which translates to a larger home with better finishes. - Good answer to the wrong question.

> Analyzing the question of quality and in relation to Cheyenne ideology: Here the real problem is about yes "quality" which can be defined as the ability of homes to increase in value over time. In financial terms (economics) the subsidized house more closely resembles the life span of the car, which is constantly falling in value over a period of time. Since there is no value increase due to quality, then there is no monetary value in it for the resident. Rethinking the question to subsidized/affordable housing in terms of providing quality housing that will become an asset that will appreciate over time.



- Northern Cheyenne Tribal Housing Authority

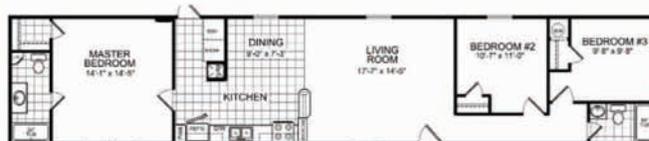


Figure 25. (top) arch_679 photo, Penn State Housing Project, Joseph Kunkel

Figure 26. (middle) arch_679 photo, Reservation Housing, Joseph Kunkel

Figure 27. (bottom) Typical trailer housing plan, Housing Authority

Conditions

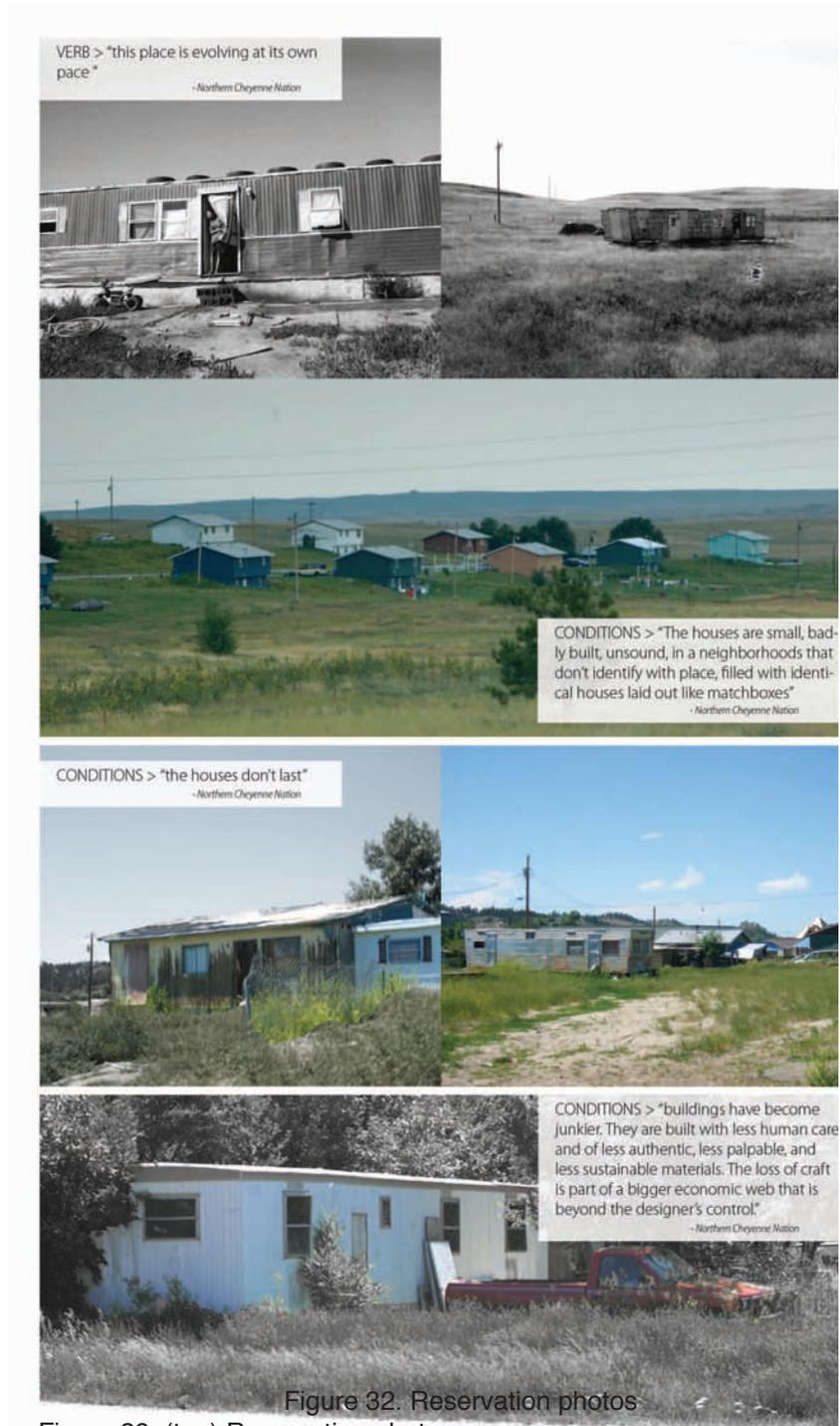


Figure 32. Reservation photos

Figure 28. (top) Reservation photos

Figure 29. (middle 1) Reservation housing

Figure 30. (middle 2) arch_679 photo, Amanda Ganginis

Figure 31. (bottom) arch_679 photo, Nick Aello

Conditions

Figure 32. Reservation photos



Figure 33. Reservation schoolhouse



Figure 34. arch_679 photo,



Figure 35. arch_679 photo



Introduced

It is interesting to observe or analysis how an indigenous society has formed and adopted western ideologies around a clear set of boundaries. Described in this chapter is a framework, which tries to move past a Euro-American worldview and understand A People in a context incorporating Native American values and environments, built on from spiritual knowledge and cultural landscapes.

Defined

Native American architecture is a very broad research subject; hence this thesis shall limit the research to the ways in which dwelling is concerned with the Northern Cheyenne. The study of dwelling was chosen due to the wealth of historical data as well as for the current need proper ways of living.

The potential limitations of this thesis are the ability to obtain an ethnographic field permit from the Northern Cheyenne Nation, as well as obtaining the approval from University of Maryland's Institutional Review Board (IRB), and the willingness of the Northern Cheyenne people to speak openly with me about their relationship with their own ways of culture and habitation.

Methodology Interpreted

The architectural framework I am proposing to conduct this research from is based on Doug Kelbaugh's Five Senses from his article Towards an Architecture of Place.

Sense of Place⁹ - What is the essence of THIS place?

Consider the phenomenon of placelessness engendered by Universalization, which Kenneth Frampton notes "constitutes a sort of subtle destruction, not only of traditional cultures... but also... the ethical and mythical nucleus of mankind." In comparison consider the idea of resisting an inherent indulgence in nostalgia (Disneyfication).

Sense of Nature⁹ - Liberation of the "genius loci" of any specific place with respect to landscape, species, agriculture, topography, climate, and geology. Consider the concept of sustainability.

Sense of History⁹ - How has history defined the place? Is history always meaningful now? What are the traditional forms, typology, and enduring patterns? Consider the attribute of defamiliarization - "Critical Regionalism is interested in the specific elements from the region, those that have acted as agents of contract and community, place-defining elements, and incorporates them 'strangely,' rather than familiarly, it makes them appear strange, distant, difficult even disturbing."

⁹ Doug Kelbaugh, Toward an Architecture of Place: Design Principles for Critical Regionalism", Critical Regionalism: The Pomona Meeting Proceedings (Pomona, CA: College of Environmental Design, California Polytechnic University, 1991) p. 180-181

Methodology Interpreted

Sense of Craft⁹ - Consider materiality, the tactile qualities of place, and the culture of making. “The tactile resilience of the place-form and the capacity of the body to read environment in terms other than those of sight alone, suggest a potential strategy for resisting the domination of universal technology.” These tactile realizations can be delivered in the form of sounds, tastes, smells, and touch.

Sense of Limits⁹ - What are the perceived limits within and around this place? Are their physical, social, and cultural boundaries? Where did these limits come from and what do they mean? Consider the existence of boundaries not as a point of limitation or an end, but rather as the point of departure or as the Greeks recognized it as a place from which “something begins its presencing.”

⁹ Doug Kelbaugh, “Toward an Architecture of Place: Design Principles for Critical Regionalism”, *Critical Regionalism: The Pomona Meeting Proceedings* (Pomona, CA: College of Environmental Design, California Polytechnic University, 1991) p. 180-181

Methodology re-Interpreted



place

presents material objects, and areas, naturally formed or built moments in the landscape that makes up everyday life



> The identity of "place" is for the Northern Cheyenne one of the most basic concepts when understanding the uniqueness of their lands. Ma'heo'o (the creator) is essential to the creation of "place" in terms of cultural and being. The Cheyenne believe "places" are realized as much a part of us as we are a part of them, you, me, and everyone else who partakes in existing in the complexities of "place". The land is valued as a "place" of beauty and natural recourse. Cheyenne craft is expressed in traditional art, clothing and ceremony buildings; yet elements in these areas have seized to find their way into contemporary building culture.



program statement

> *function*

The "sense of place" encourages the integration between person and the uniqueness of the Northern Cheyenne Nation. The design proposal should emphasize the qualities of place through the built form. Material will maintain a vernacular connection to place. All or almost all, spaces in the dwelling can be shared and used in a variety of ways. This will reflect the vernacular connection to how the spaces are used with no inherent identity. Yet the connection will be made through the temporal understanding of how space is understood with regards to place.

> *form*

The design proposal must respond to the principles of naturally formed or built moments in the landscape that makes up everyday life. The form should be generated in response to the scale of its immediate surroundings, site, terrain, and density. Points of reference will allow for proper sighting of design proposal(s).

> *economics*

The design proposal should emphasize areas that result in defining "place". Spaces that focus on communal activities will be given priority, exterior and interior alike.

> *temporal*

Giving that change is probable for future occupancy, the design proposal should allow the client to easily adapt and convert the existing dwelling to specific needs of the family, with respecting the individuality of each dwelling proposal.



Figure 36. (top) arch_679 photo, Cheyenne Drum
 Figure 37. (middle) arch_679 photo, Chief Dull Knife College
 Figure 38. (bottom) arch_679 photo, Reservation housing

Methodology re-Interpreted

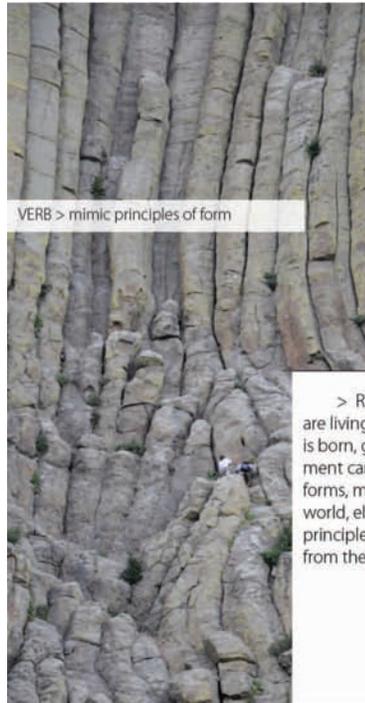


Figure 39. (top) arch_679 photo, Native Dancer

Figure 40. (middle) arch_679 photo, highway 212

Figure 41. (bottom) arch_679 photo, a) play equipment b) Sweat Lodge

Methodology re-Interpreted



nature

the sacred and collective identity as defined by the physical environment

> Respecting earth as a teacher, and understanding that dwelling spaces are living things are core beliefs in Cheyenne culture. Just as a person, a structure is born, grows old with time, and eventually returns to nature. The built environment can mimic characteristics of the physical environment by emulating natural forms, material and construction. By understanding the functions of the natural world, elements of the built environment can be embedded with nature's design principles. This will introduce a process that is based not on what is extracted from the natural world, but what can be learned from it.



program statement

> *function*

The *'sense of nature'* looks to the physical environment for identifying characteristics of form. The design proposal shall emphasize the how the natural world can influence the built environment. Special attention will be given to principles of natural form and analyzing the concepts of biomimicry for inspiration. The design should clearly separate the understanding of physical and built environments.

> *form*

Emulating natural forms and design processes to create a unique and distinct identity that is sustainable. Built forms should mimic the characteristics of the physical environment by identifying the principles of nature's architecture. Forms should be efficient with relation to performance and influenced by climate, surrounding landscape, and natural resources.

> *economics*

Since natural forms respond with simple and direct solutions, the proposed dwelling type will respond similarly, with regards to concept, material, fabrication and construction. Cost effectiveness will also be a factor when considering design solutions.

> *temporal*

Emulating nature's process and giving that change is probable for future occupancy. Similarly how nature adapts to unforeseen conditions the design proposal should allow the client to easily adapt and convert the existing dwelling to change that a family may endure, with respecting the individuality of each dwelling proposal.



Figure 42. (top) arch_679 photo, Devils Tower, SD
Figure 43. (middle) arch_679 photo, Reservation Lands
Figure 44. (bottom) arch_679 photo, Sundance Lodge

Methodology re-Interpreted



Figure 45. (top) arch_679 photo, Reservation Lands
Figure 46. (middle) arch_679 photo, Prayer Lodge, Busby, MT
Figure 47. (bottom) arch_679 photo, Buffalo grazing

Methodology re-Interpreted



history

sense of community with relation to culture and tradition

> The past and present ride side-by-side, just as in everyday life for the Northern Cheyenne. Language, culture, and oral tradition have shaped and defined the history of the Cheyenne people. Historical forms such as the sweat lodge and the tipi are drawn upon to inform and preserve the native history. Principles of these historical forms can be abstracted and translated to introduce methods that can create culturally rich and climatically sensitive ways of building. By synthesizing traditional values with contemporary technology, architecture can inform the Northern Cheyenne community enriching their culture in everyday life.



program statement

> **function**

The "sense of history" ties the aspects of everyday life activities with the efficient use of inhabitable space, both inside and outside. The relationships of space types will set the tone of both individual and community identity. Since the dwelling unit creates an abstracted identity of the residents, the concept must adequately respond to the principles of historical forms and traditional values, i.e. the circular form.

> **form**

The design should recognize the aspects of climate and terrain. Sensitivity should be given to the issues of environment through the response of immediate site development.

The influence of historical forms will be the premise for synthesizing contemporary means of building with traditional principles.

> **economics**

Since traditional indigenous dwellings responded with simple and direct solutions, the proposed dwelling type will respond similarly, with regards to material, fabrication and construction.

> **temporality**

Giving that change is probable for future occupancy, the design proposal should allow the client to easily adapt and convert the existing dwelling to specific needs of the family, while keeping quality control a priority in relationship to human safety.



Figure 48. (top) arch_679 photo, Rocks at St. Labre Indian Mission, Ashland, MT,

Figure 49. (middle) arch_679 photo, Tipi, Chiefs Pow-Wow

Figure 50. (bottom) arch_679 photo, Tipi Structure, Chiefs Pow-Wow

Methodology re-Interpreted

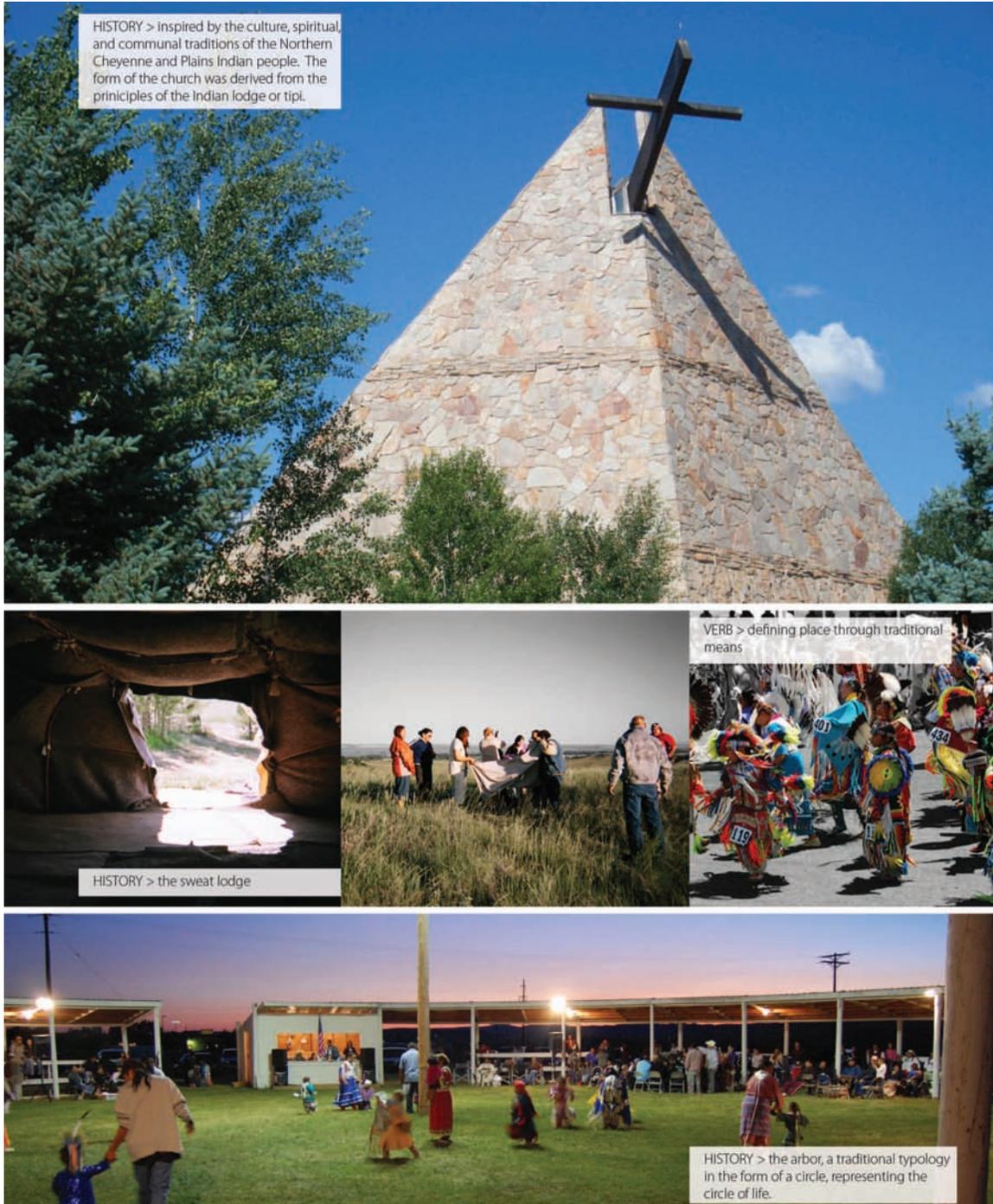


Figure 51. (top) St. Labre Indian Mission, Church, Ashland, MT

Figure 52. (middle) arch_679 photo, a) Sweat Lodge b) Morning Prayer c) Native Dancers

Figure 53. (bottom) arch_679 photo, Busby Pow-Wow, Busby, MT

Methodology re-Interpreted



craft

> Unique inspiration from natural materials represents the essence of the Northern Cheyenne's culture of making. It is from the qualities of place that the Cheyenne draw upon the appreciation of their spiritual traditions, and their belief in Grandmother Earth. The rich assortment of colors; blues, greens, gold's, olives, browns, reds, and purplish grays reflect the big sky in its four seasons, and are giving to man by Grandmother Earth. These elements of color and stone can be found in the intricate beadwork, clothing, paintings, and traditional structures of the Northern Cheyenne. The Cheyenne look to these traditional ways of making for inspiration to preserve and further their heritage. Through the integration of native building craft, along with universal building principles, the Northern Cheyenne will be able to synthesize and preserve an authentic yet contemporary built environment.



program statement

> *function*

The "sense of craft" represents the essence of the Northern Cheyenne's culture of making. Design proposals should draw upon the high quality of native building craft. Traditional building principles along with the integration of contemporary building practices will allow for a synthesis of design solutions. Attention to quality and efficiency will add value to the design proposal. The layout of the plan should strive for a highly flexible plan, which will reduce future costs for future adaptations.

> *form*

Pulling from native traditions, the design should be unique with relationship to the identity of the individual. Allowing for flexibility in the structure, the dwelling will allow for future addition with little construction experience.

> *economics*

Ideally all main construction work will be fixed in deliverable dwellings. Finished on the other hand will be left up residents, allowing for a higher quality product. Value also will be retained due to ability to limit ways in which future expansion is allowed.

> *temporal*

In this proposal change and adaptability is almost essential for residents to give an identity to their individual dwelling. The design proposal will allow the client to easily adapt and convert the existing dwelling to specific needs of the family, with respecting the individuality of each dwelling proposal.



CRAFT > attention to detail

Figure 54. arch_679 photo, (top) Sweat Lodge Cloth (middle) Reservation Structure (bottom) Native Brest Plate, Peter John

Methodology re-Interpreted



Figure 55. arch_679 photo, (top)Tipi, interior
Figure 56. arch_679 photo, (middle) a) Reservation Housing b) Clay Stone c) Reservation Housing
Figure 57. arch_679 photo, (bottom) trailer house in the landscape

Methodology re-Interpreted



limits

identifying the degree of freedoms to conceptualize a project



> The physical boundaries of the Northern Cheyenne reservation are a definitive reminder of the harsh realities of reservation life and the process of relocation which forced the tribe to abandon their nomadic way of life on the Great Plains. This process of forced relocation and the superimposed boundary has resulted in a negative perspective of the physical, the social, and the economic "limits" placed on the tribe. However, "limits" can often become a point of departure for current conditions to be redefined or recast in a new and positive light. That the Northern Cheyenne people have maintained almost 100% of their original reservation land holdings/plots. The idea that these holdings actually exist within the boundary of their original nomadic range is a testament to the people, the commitment to their culture, their profound connection to the land, and their legendary fighting spirit.



program statement

> **function**

The "sense of limits" identifies the degree of realities that fall onto the Northern Cheyenne tribe. Planning for maximum number of occupants will allow for appropriate sizing of dwelling. Proposals shall accommodate specific special zones, i.e. exterior/interior spaces, allowance for vehicular parking, etc. The area requirements should function according to HUD specifications.

> **form**

The design should respect the given site conditions and boundaries. The proposal(s) should consider the adjacent properties in relationship to one another, with the possibility that base structures could be similar in nature. Again there should be a focus with the connection to the land and culture.

> **economics**

Dwelling specifications should be sustainable with respect to the life span and maintenance of the structure. With respect to concept and construction, there is a strong possibility that most of the project will be contracted with mostly unskilled labor. The design should reuse recycled material when appropriate to allow for individuality and cost effectiveness

> **temporal**

Giving that change is probable for future occupancy, the design proposal should allow the client to easily adapt and convert the existing dwelling to specific needs of the family, while keeping quality control a priority in relationship to human safety.

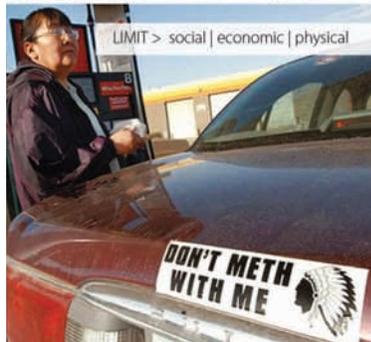


Figure 58. arch_679 photo, (top) Custer Battle Field (middle) St. Labre Indian Mission, Ashland, MT (middle) Native Action Office (bottom) Cheyenne fueling

Methodology re-Interpreted

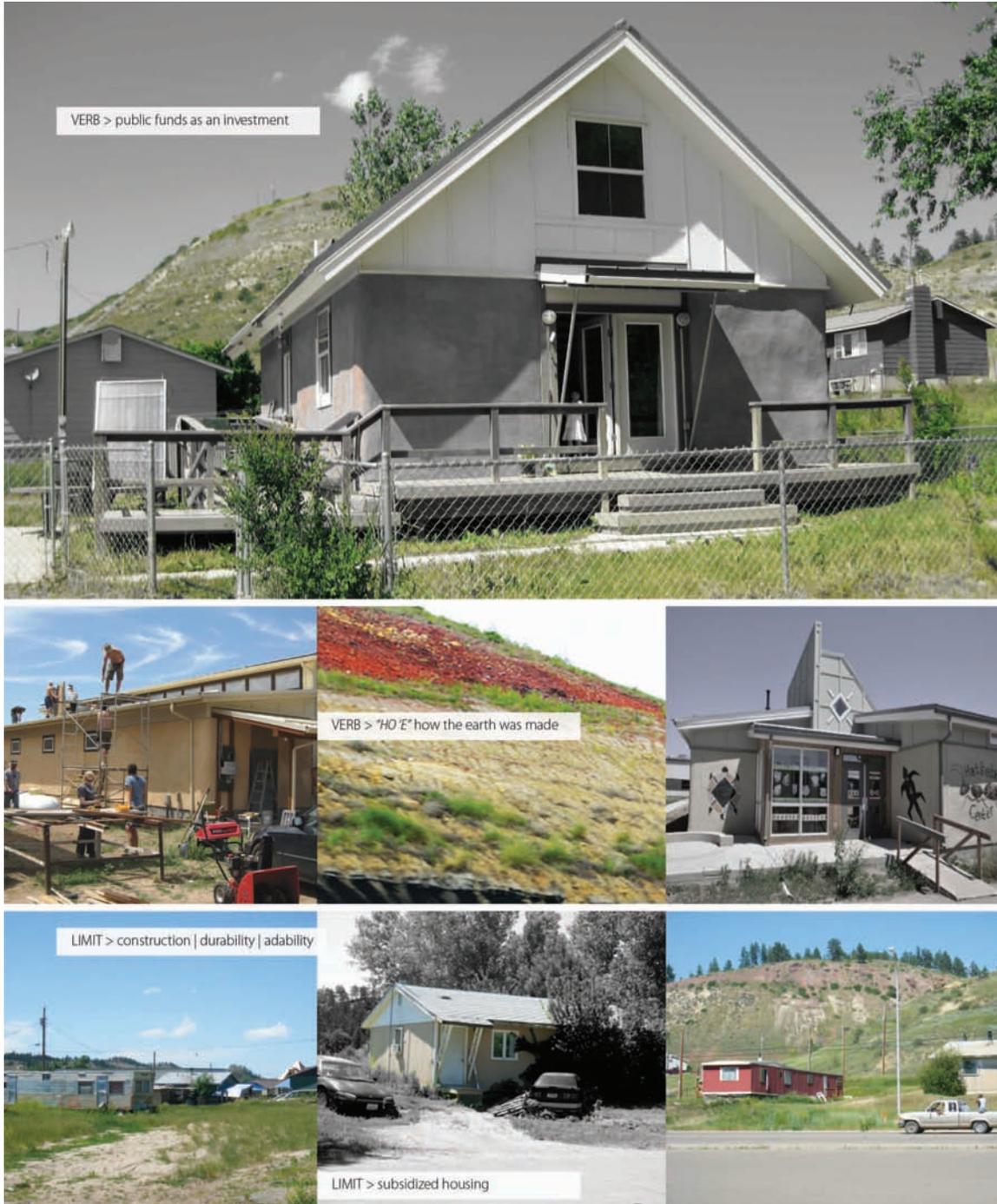


Figure 60. arch_679 photo, a) Penn State Construction b) Coal Lands c) Penn State Straw Bail Daycare
Figure 61. arch_679 photo, Reservation Housing

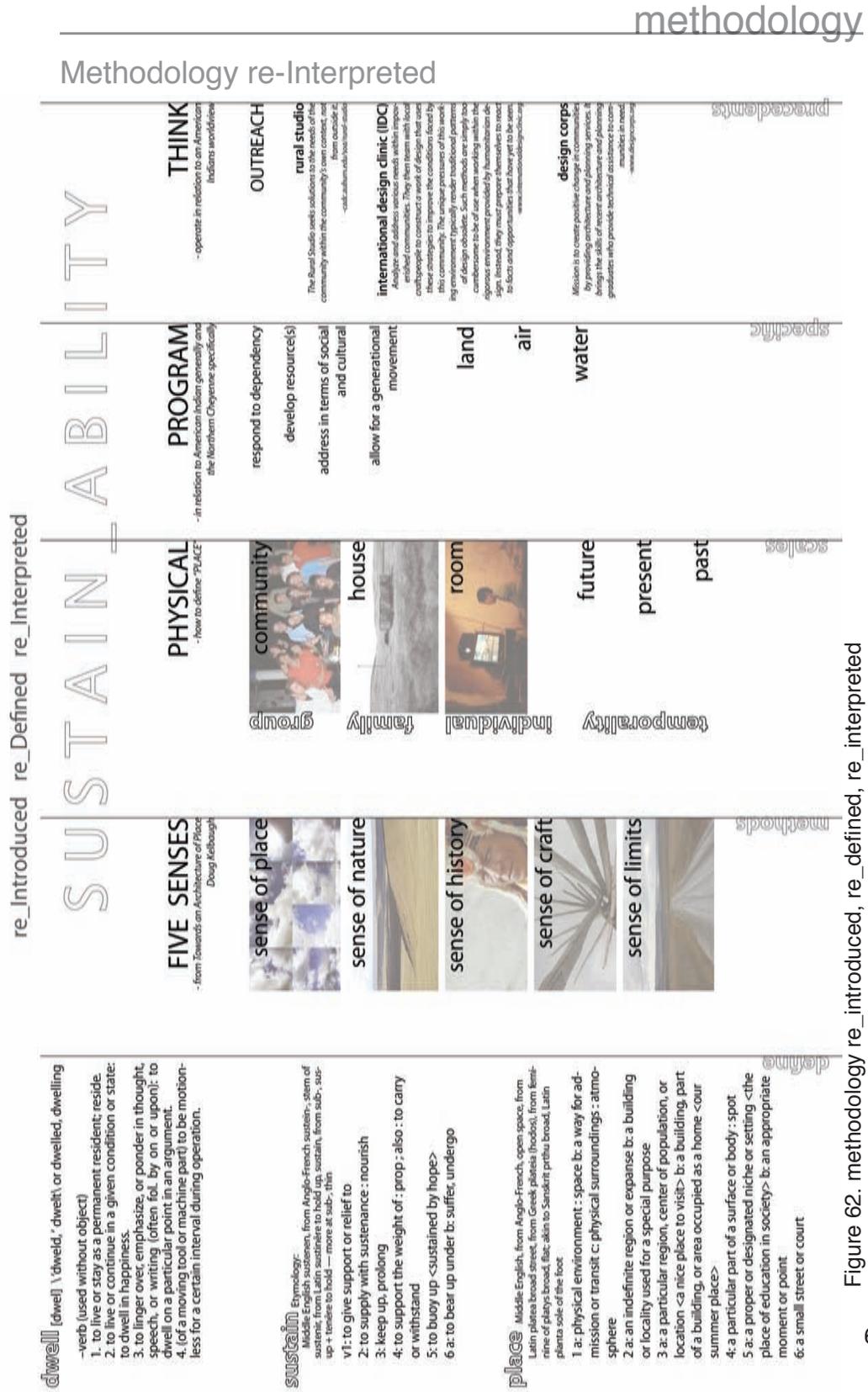


Figure 62. methodology re_introduced, re_defined, re_interpreted

dwelling as it relates to program

contemporary design philosophy **synthesis** american indian philosophy

Methodology re-Interpreted

methodology

	goals	facts	concepts	needs	problems
FUNCTION					
people	maximum number individual identity interaction privacy prime activities segregation	statistical data area parameters user characteristics community characteristics organizational structure value of potential loss behavioral patterns space adequacy type intensity	service grouping people grouping activity grouping priority hierarchy sequence mixed flow functional relationships communications	area requirements - by organization (HUD) - by space type - by time - by location parking requirements outdoor space requirements functional alternatives	
activities	transportation parking efficiency priority of relationships				
relationships					
FORM					
site	bias on site elements environment response efficient land use community relations community improvements physical comfort social psychological environment individuality wayfinding projected image	site climate conditions surroundings implications point of reference layout efficiency construction area	special foundations density environmental controls neighbors fixed free grouped orientation accessibility character	relationship to site relationship to terrain influence of culture influence to community construction efficiency	
environment					
quality					
ECONOMICS					
life span	cost efficiency value of return operating cost life span sustainability maintenance	activities climate factor cost parameters budget time-use factors	energy conservation materials construction control fabrication - on site - off site recycling skilled labor unskilled labor	life span ability to increase in value	
maintenance					
return					
TEMPORAL					
past	historic typology static dynamic change tradition growth occupancy	significance space parameters activities durations escalation factors projections	adaptability tolerance convertibility conversion expansibility expansion scheduling linear concurrent phasing	construction schedule construction cost adaptability	Analyzing the implications of potential change and growth with respect to past, present, future
present					
future					

67 Figure63. synthesizing function, form, economics, & time

Approach

The hope is to design a dwelling that is inherently “Indian”, using data collected from the above charts to define a spatial understanding of Douglas Kelbaugh’s Five Senses from the article Towards an Architecture of Place. The development of new model or typology will attribute a contemporary way of thinking when it comes to identifying architecture for the Northern Cheyenne Community. The principles developed will allow for new architectures to mature, and form with the understanding of culture and community. These concepts will be developed along the complexities that are current on the reservation.

The diagrams that will follow this synopsis were an attempt to analysis and define a spatial relationship that is identifiable with the Northern Cheyenne according to the “Five Senses”. The purpose was to engage each of the “Five Senses” individually in order to define the true essence the sense. This was done in an array or conventions. Some of the Five Sense’s were defined in conventional means, in plan and sections, where others might only be defined three-dimensionally. All the senses were explored through physical model to better grasp the concrete nature of how space is understood.

After the first pass of this process, it became apparent that more iteration of both analytical diagramming and modeling had to be done to better clarify the meaning of

Approach

each sense. An example of this was the “Sense of Place” where the first iteration described a notion of individualism, where the understanding of the sense was more about the interaction of forms, possibly at the urban scale.

After each of the senses were defined through the use of diagram and model an attempt was made to then apply each of the spatial understands to the physical environment of the reservation. It was at this point in the process that the spatial concepts were brought together and the synthesis these ideas where attempted to be fused together.

Approach

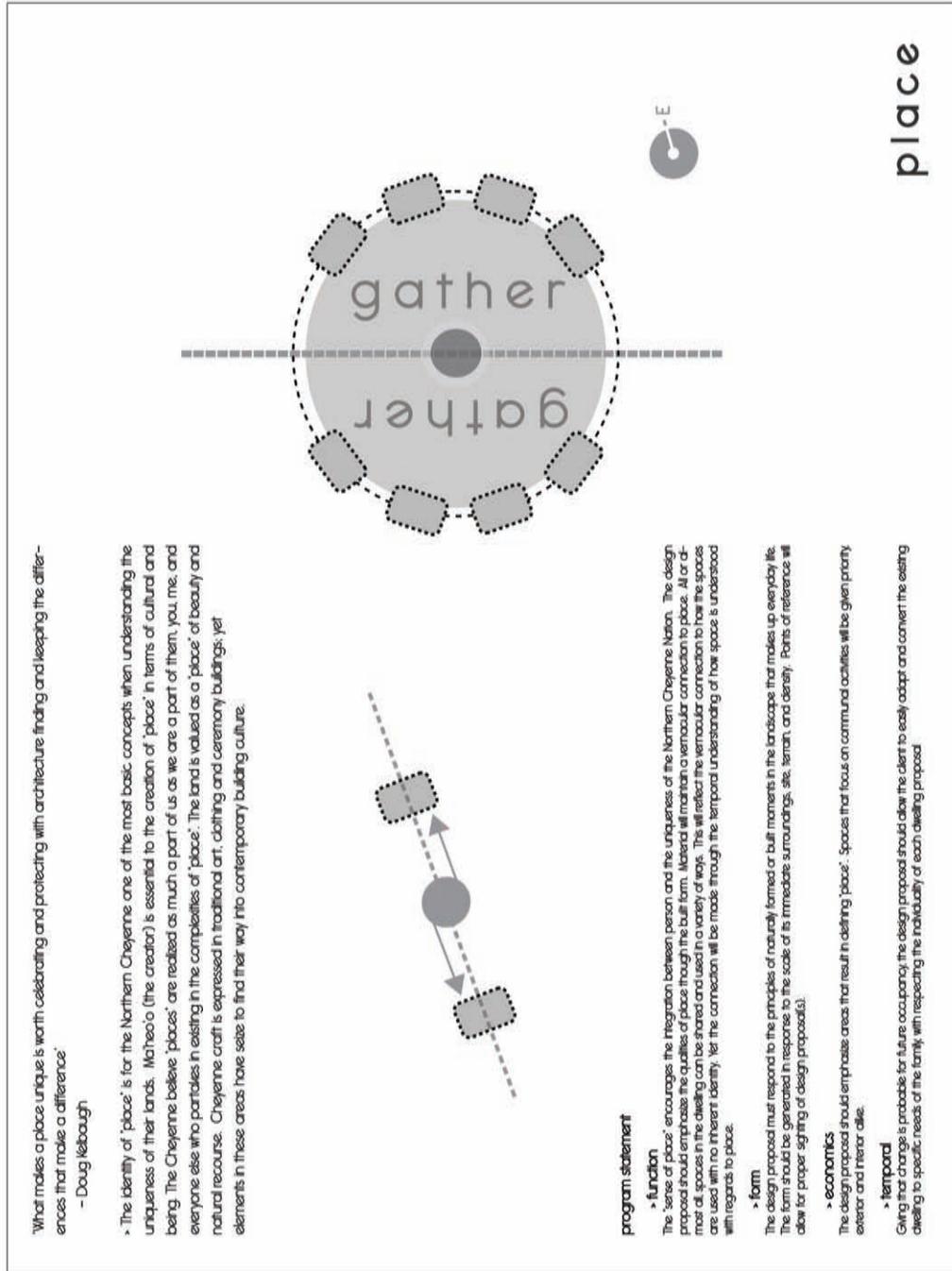


Figure 64. Approach: diagramming the “Sense of Place”

Approach

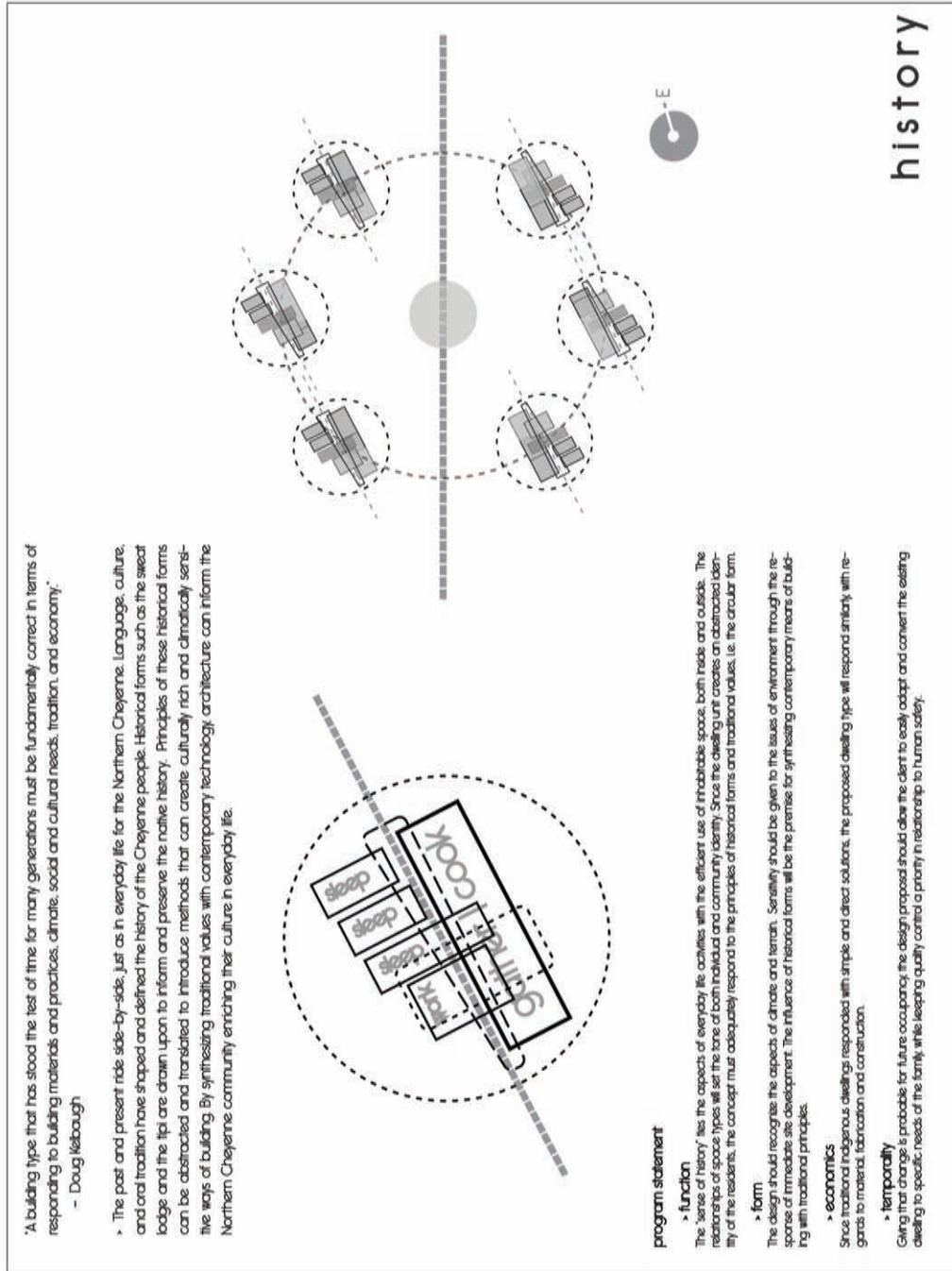


Figure 66. Approach: diagramming the “Sense of History”

Approach

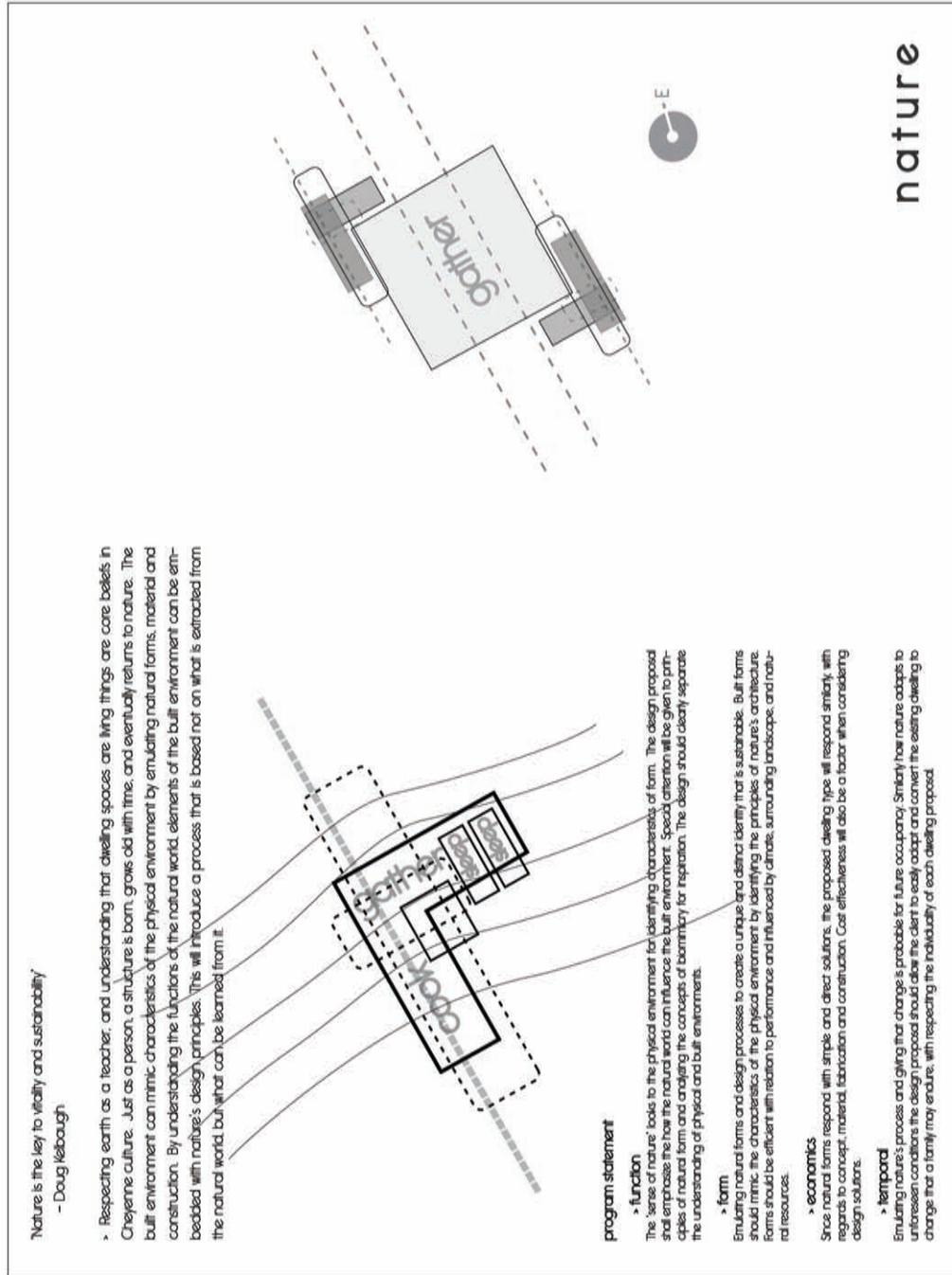


Figure 67. Approach: diagramming the “Sense of Nature”

Approach

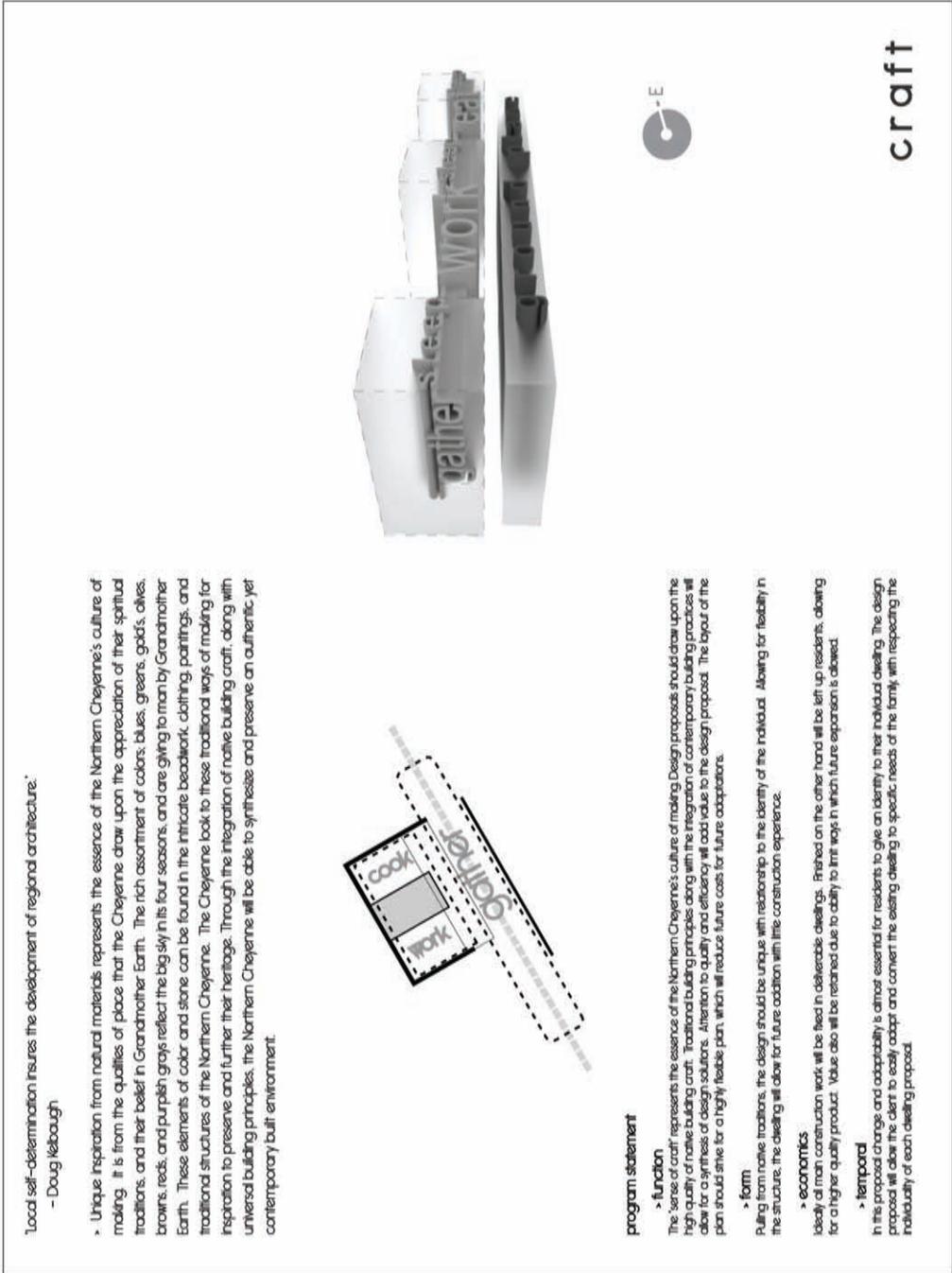


Figure 68. Approach: diagramming the "Sense of Craft"

Approach

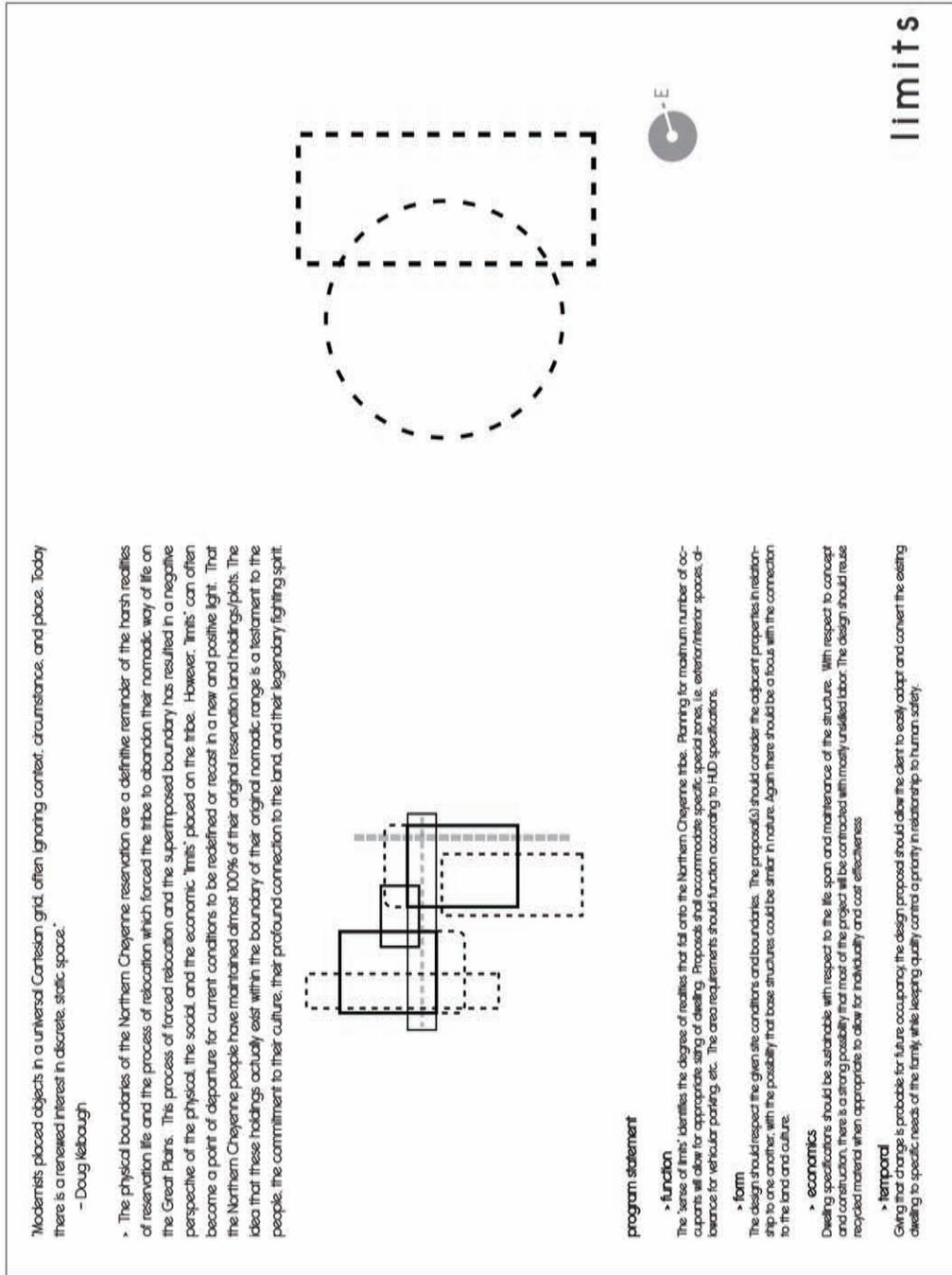


Figure 69. Approach: diagramming the “Sense of Limits”

What does it mean to be Cheyenne living in the 21st century?

When we study the American Indian, especially the built environment or architecture, we initially discover that many historical indigenous structures are built as replications of their larger understanding of the natural environment and the identity of themselves inhabiting that environment. The Tipi is an example of this phenomenon. With a series of slender poles arranged around a tripod, the structure was covered in whatever material was available in that particular region during any given time (most if not all the time buffalo hide). All materials found where from the natural environments surrounding a tribes/clans encampment. In most regions as is found in the woodlands, a cone shaped alone met most needs. On the plains, strong winds and sudden gusts forced the tribe to attach wind flaps to prevent wind from blowing back into the lodge. This tipi a “lodge” comfortably dwelled a family that could fit from four to fifteen individuals.

Fast forwarding to today. We are faced with standards and conditions on the reservation that are neither an “Indian’s” way of building/living or a “Western’s” way of building/living. Where building/living in the way of the tipi is no longer an option, and the current ways of building/living on the reservation can be considered substandard. We now

live in the 21st century with technology that allows for a re-invention of building and living practices. For the Northern Cheyenne this is a time to be re-defining what it means to be Indian living in the 21st century.

In order for this thesis to move forward, my research hypothesis challenges the interaction of historical forms with contemporary methods of planning and building. Given the understanding that the encampments of the tipi and the tipi itself are historical forms. One can look to extract from them a series of principles which to build a framework to provide possible solutions to current building and living practices. The goal here is to demonstrate how the translation of the tipi and to its encampment are realized in a contemporary context. Here the thesis attempts to seek out a range of answers from the scale of the urban context to the scale of a person inhabiting a room.

Proposed site conditions:

Busby, a district on the western edge of the reservation, can be identified through on grid-like planning, which was imposed in the 1960's when housing became a priority on the reservation. The goal here is to merge the grid-like

historic site diagram

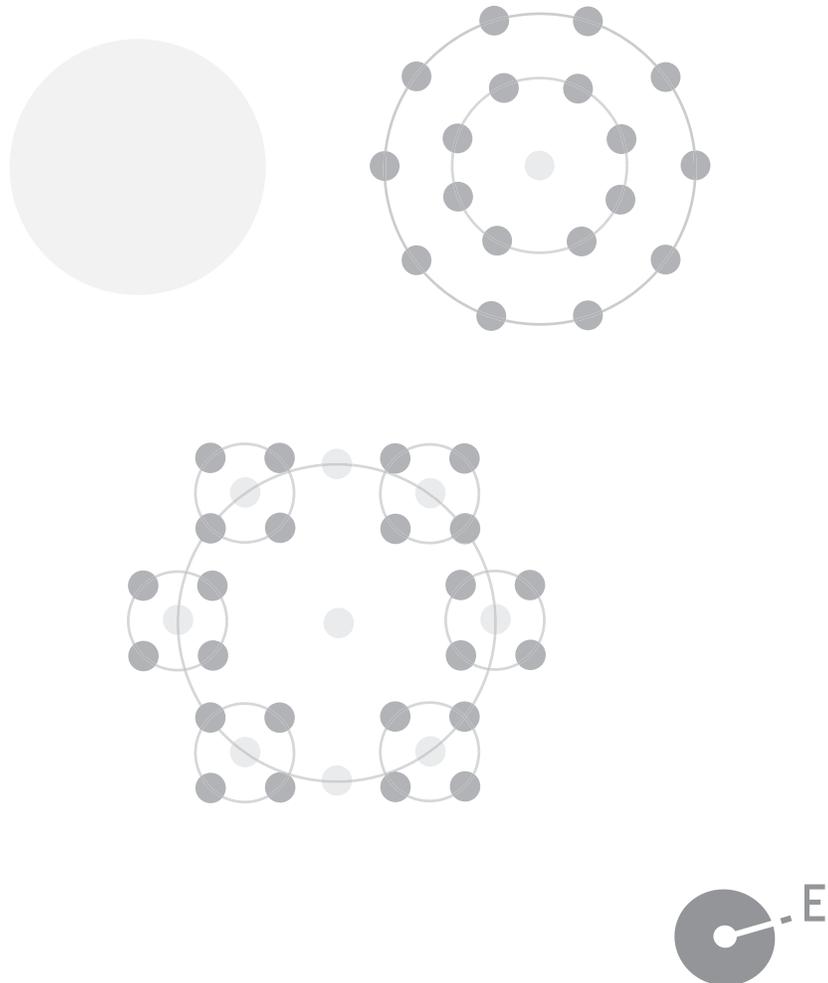


Figure 70. The Cluster a Historic Urban diagram

proposed site diagram

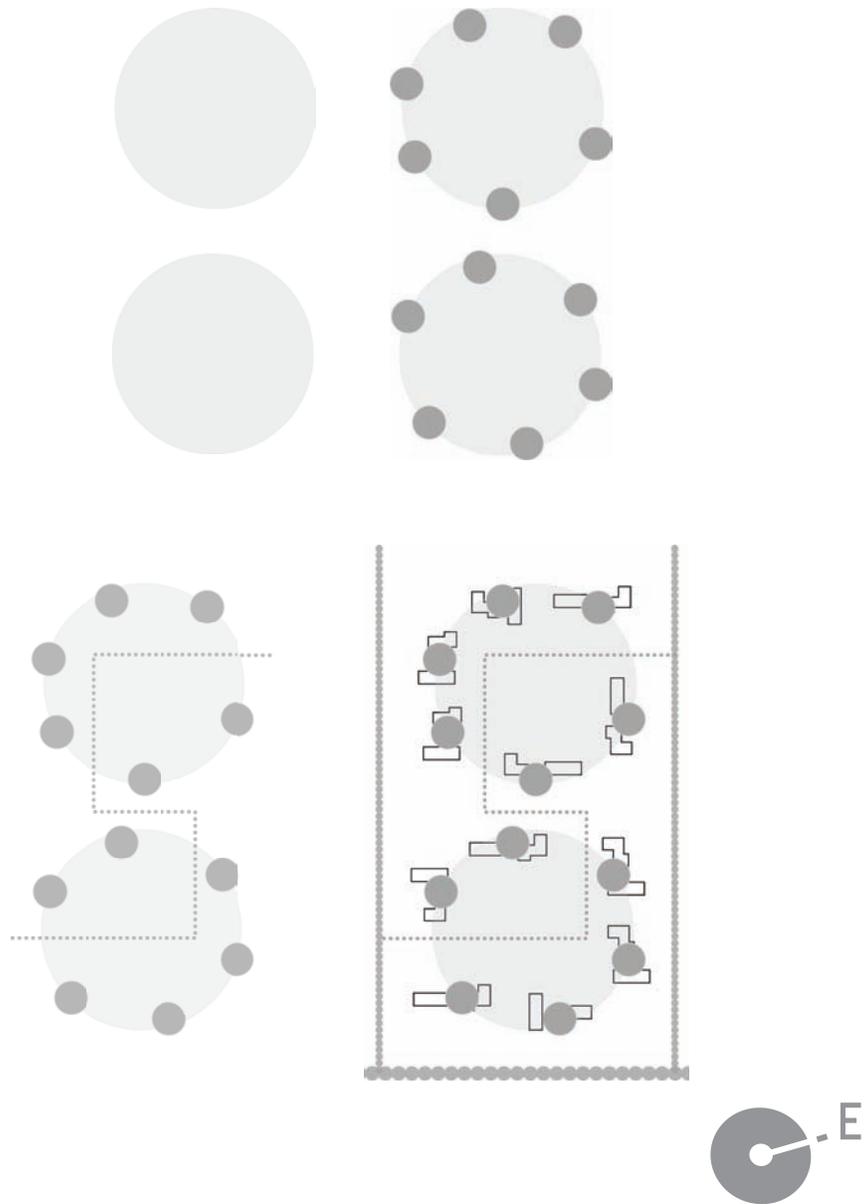


Figure 71. The Cluster transformed into a contemporary interpretation

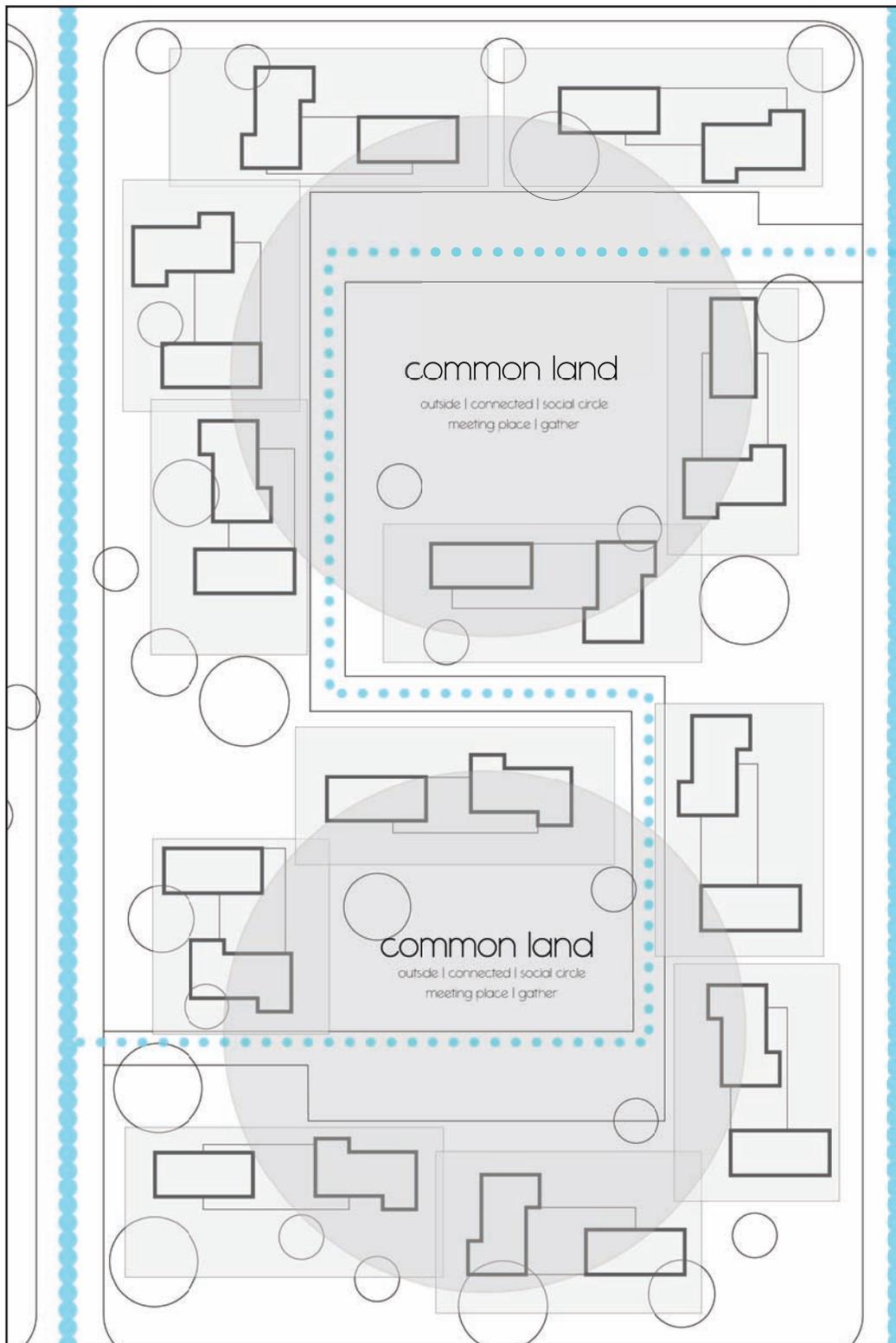


Figure 72. The Cluster as an idealized urban diagram

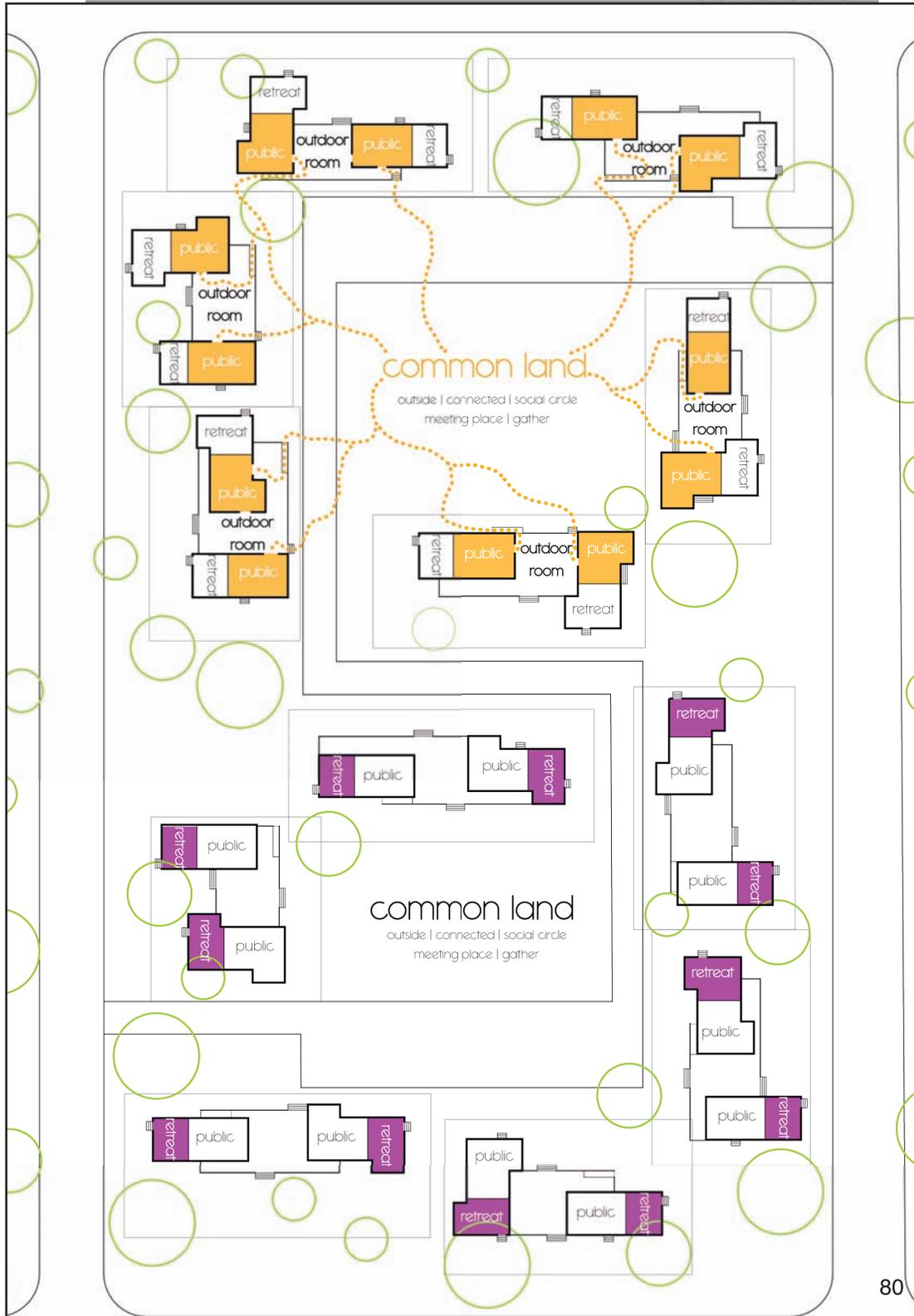


Figure 73. Defining social zones of public and private in the diagram



Figure 74. Identifying maximum dimensions that allow the cluster to work in theory

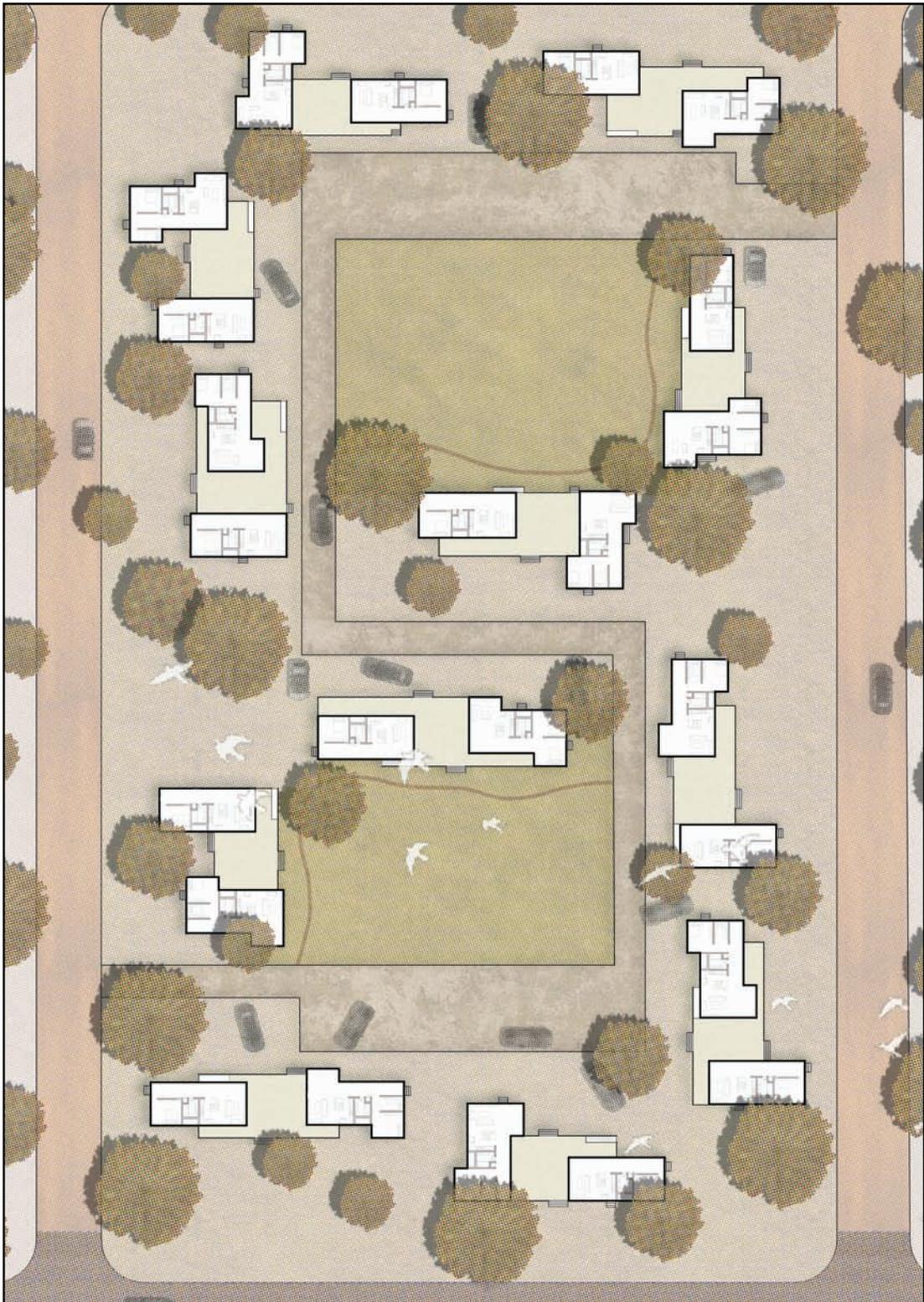


Figure 75 – The idealized urban plan

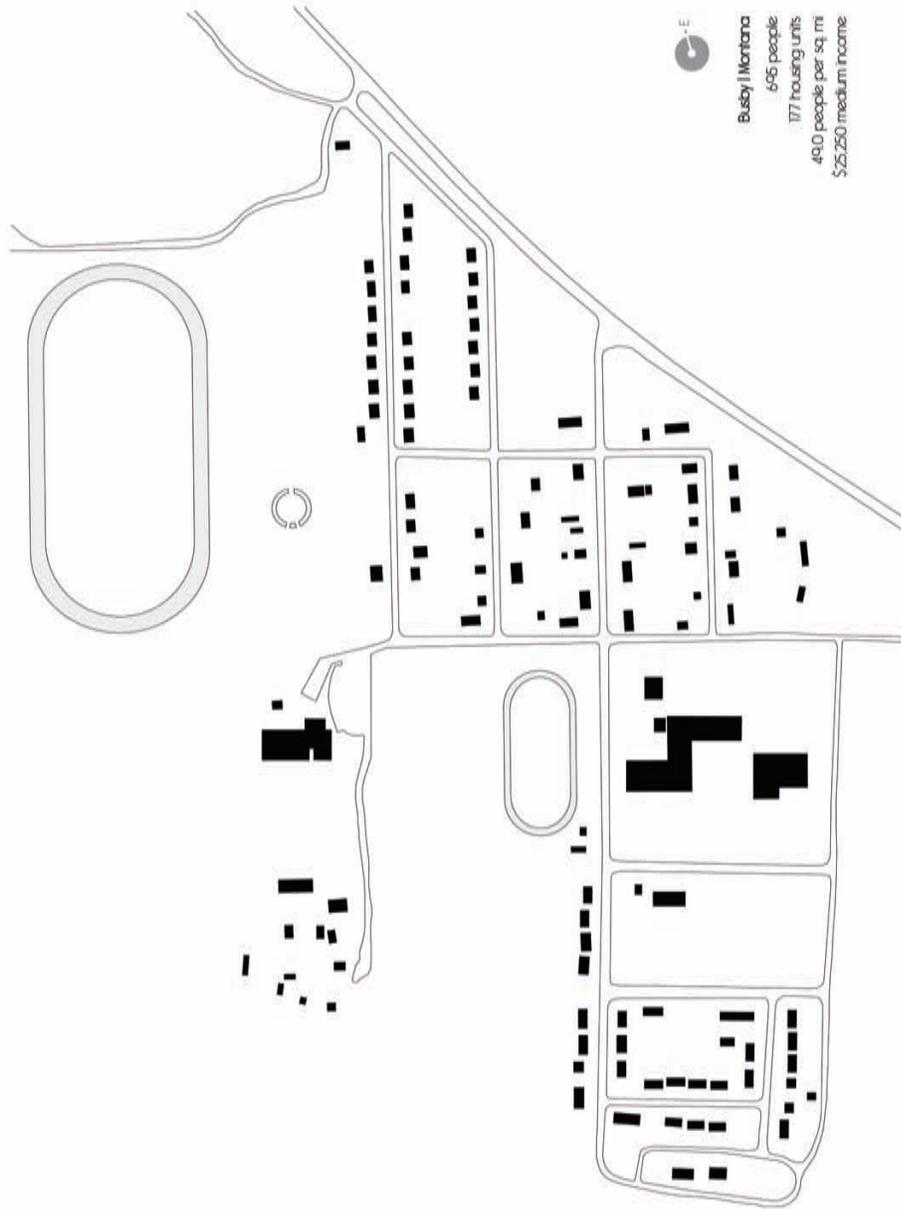


Figure 76. Existing site drawing, Busby, Montana

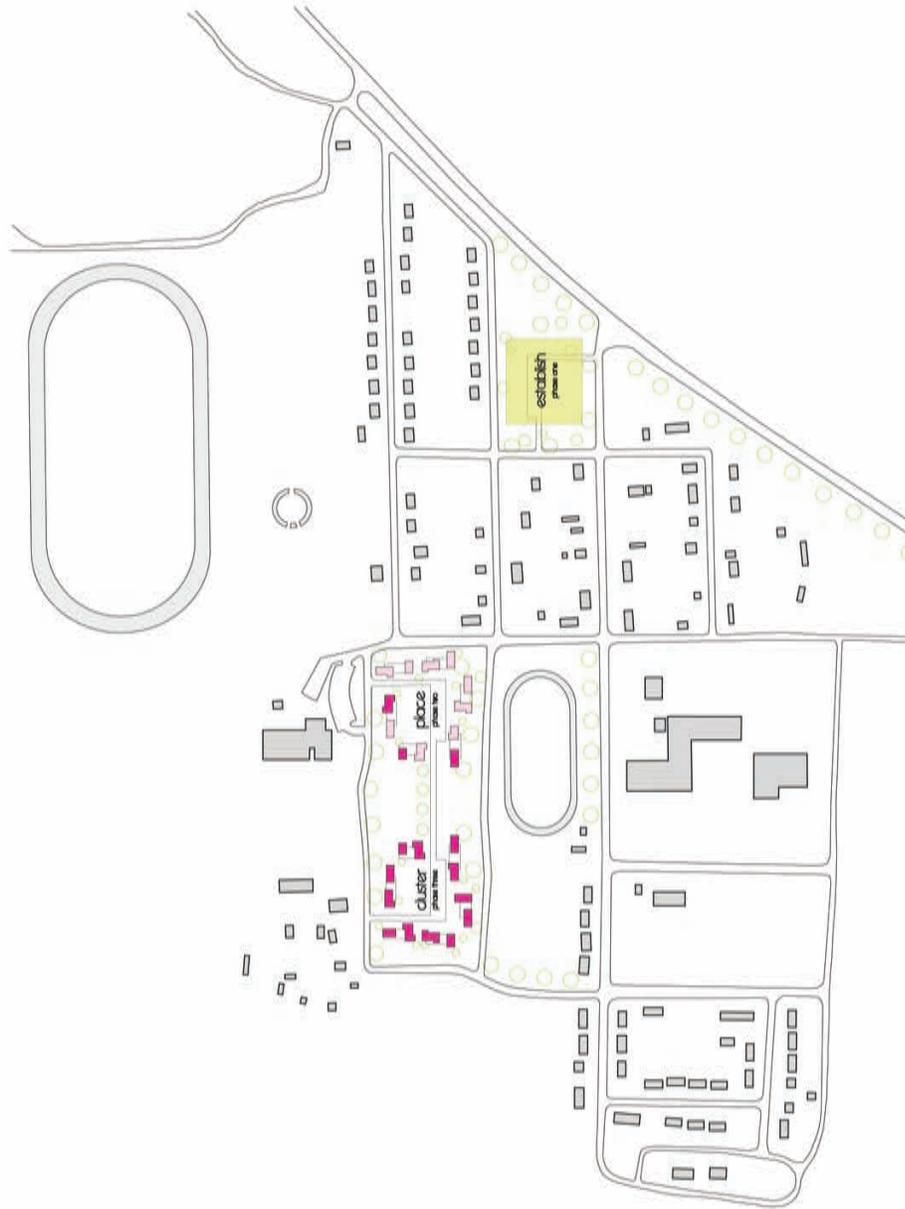


Figure 77. Site drawing, proposed expansion, Busby, Montana

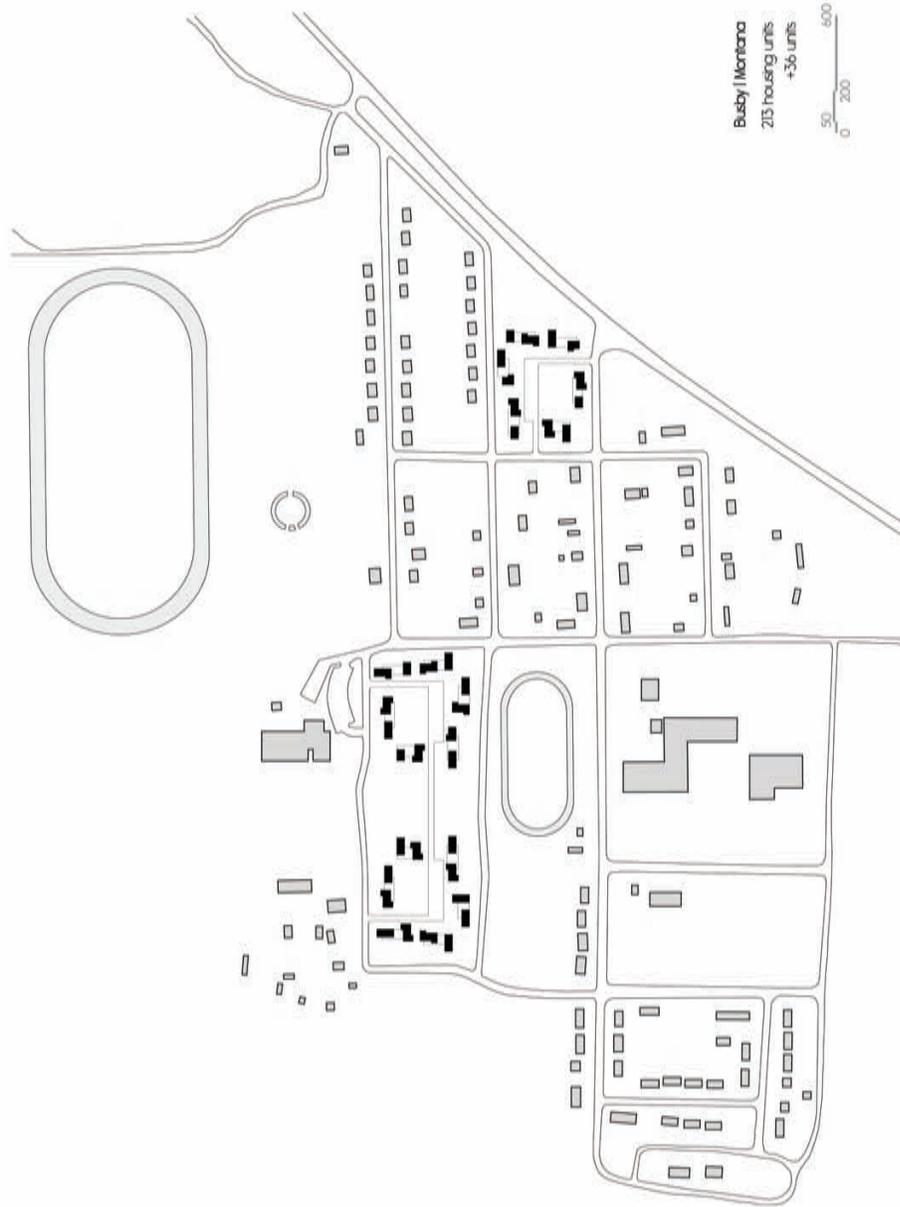


Figure 78. Site drawing, with proposed expansion, Busby, Montana

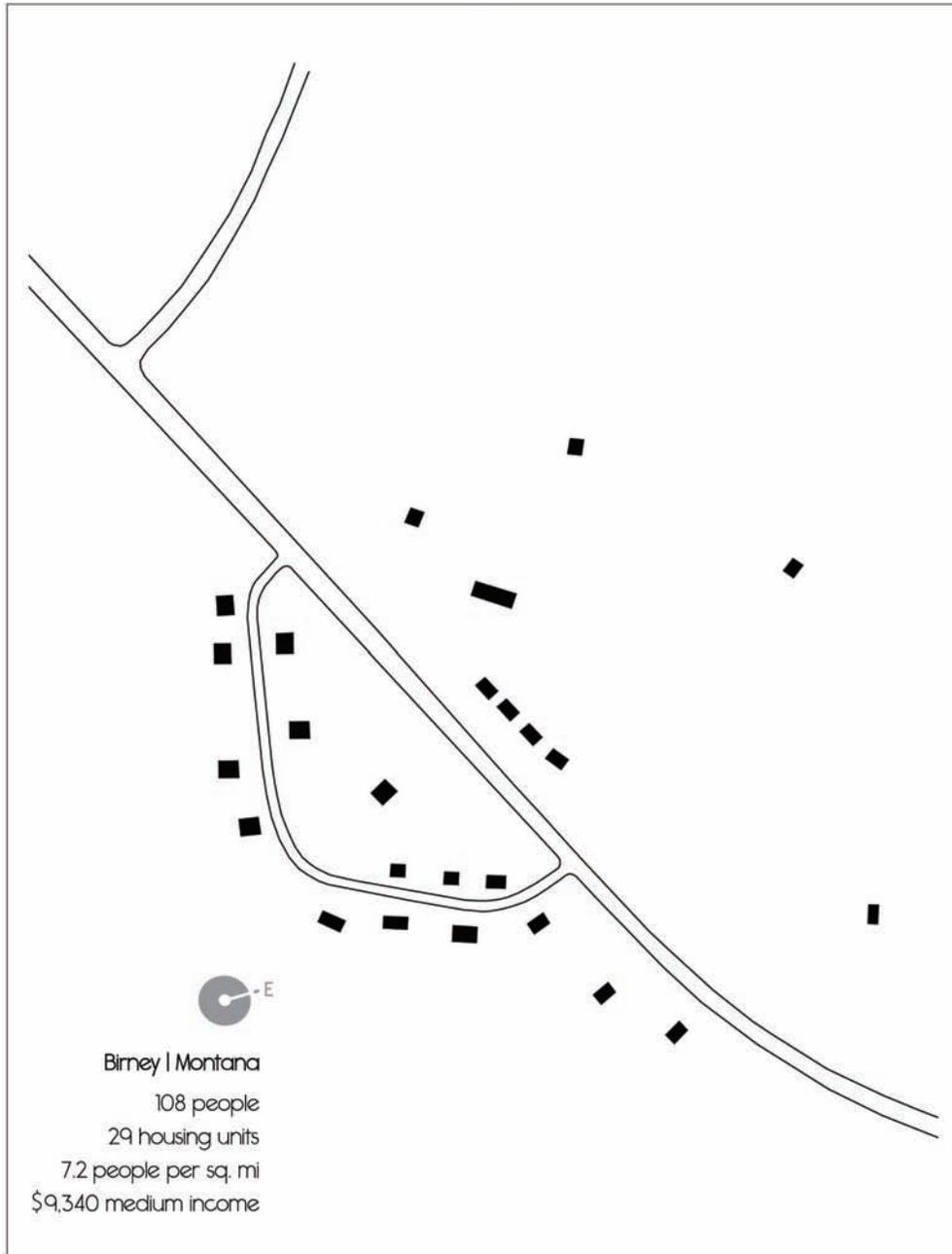


Figure 79 – Existing site drawing, Birney, Montana

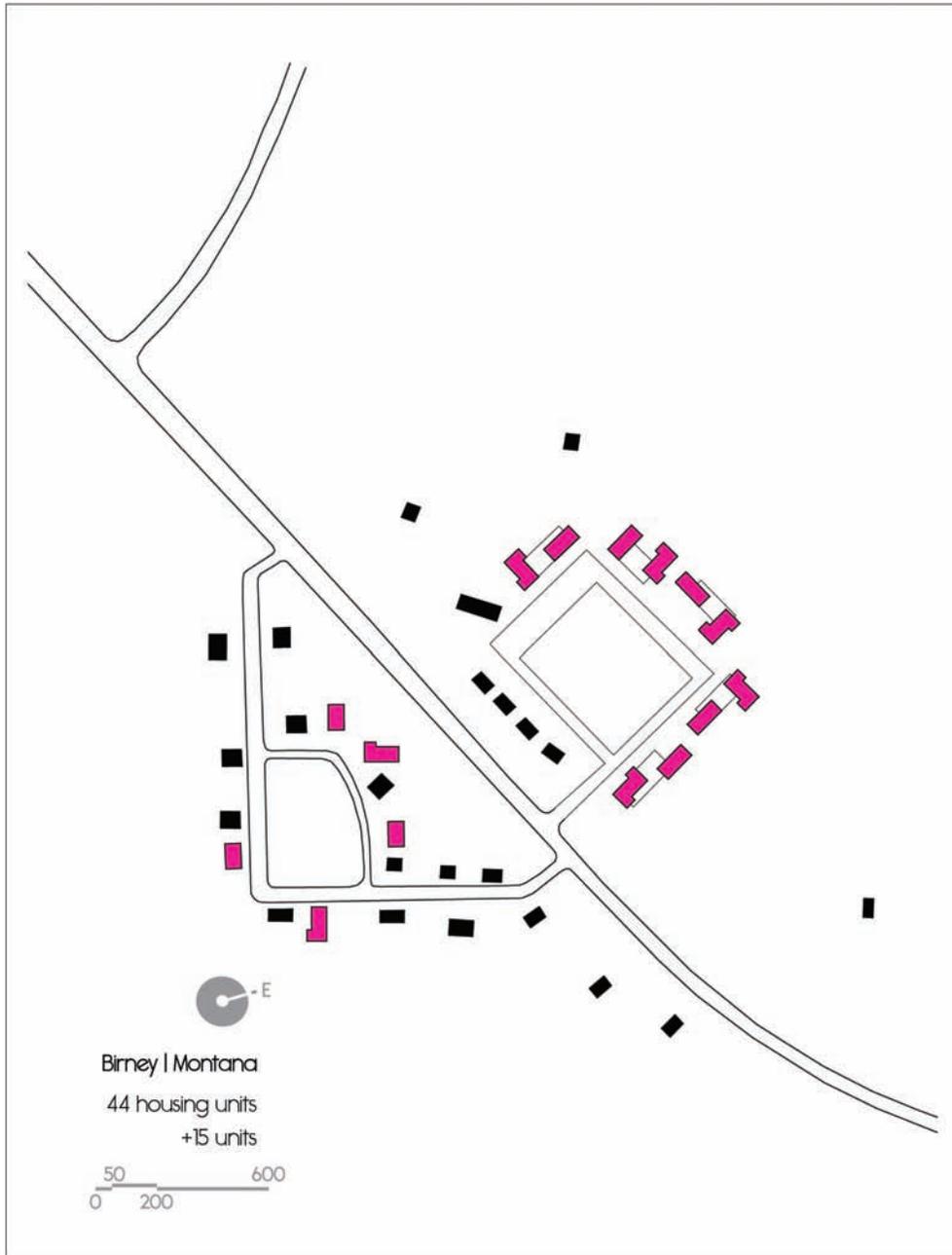


Figure 80. Site drawing, with proposed expansion Birney, Montana

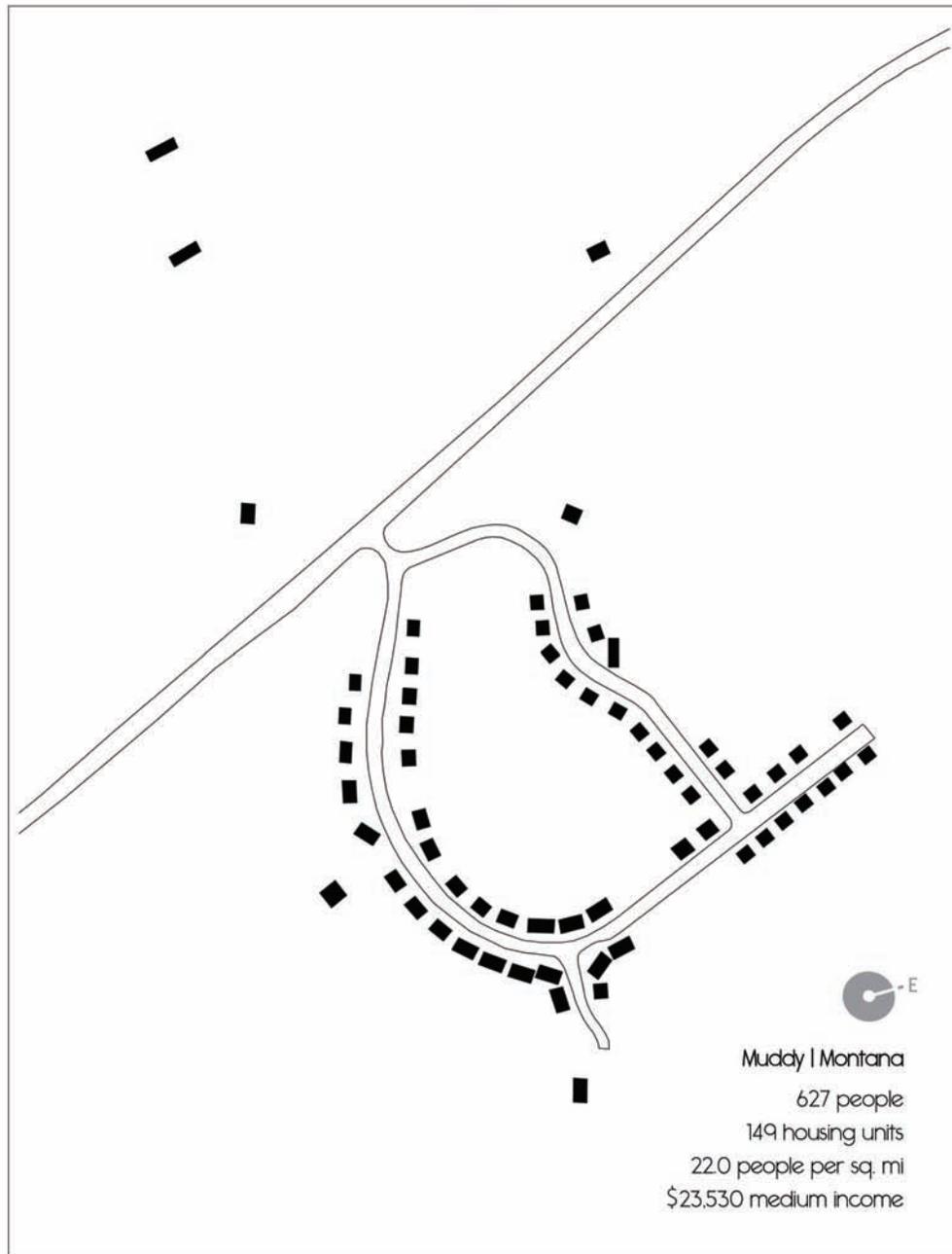


Figure 81 – Existing site drawing, Muddy, Montana

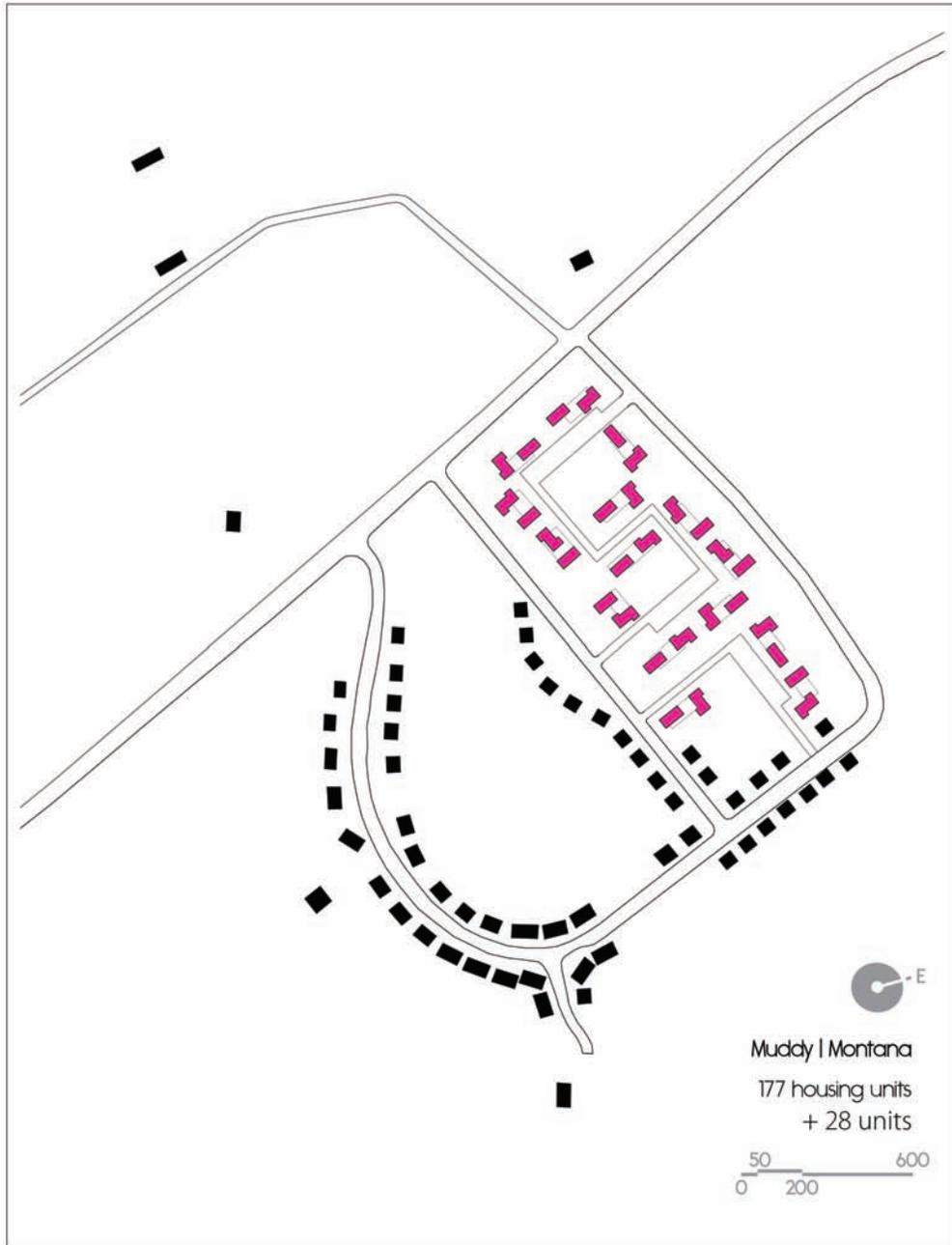


Figure 82. Site drawing, with proposed expansion, Muddy, Montana

planning of the district with an arrangement that would grow from the principles of the historical encampment circle. This proposed site condition could be inserted into existing planning, and developed further into its own urban form, where it replaces the “grid-like” array of houses on a street, with a new type of arrangement. This re-introduces the encampments principles of social organization as a cluster. This allows people and families a common area where groups of people can interact and work together, further developing building principles of historical forms. This “cluster” gives the families the ability to define their houses on the common area. Where the common area takes its physical shape through the relationship between each of the individual families, which is based off the fundamental principles of a circular spatial organization, i.e. the placement of the tipi.

It is believed within this thesis that the proposed urban form could be developed in relation with the existing grid-like form that now exists on the reservation. The goal of this thesis is not to erase all that exists on the reservation, but to work with and meld together what is working with what is proposed. History on the reservation does not only include pre 20th century and the interaction with the white man, but what has happened since then. So it is important to note that this proposed urban form take on qualities that are inherently Indian but are informed by western ways of

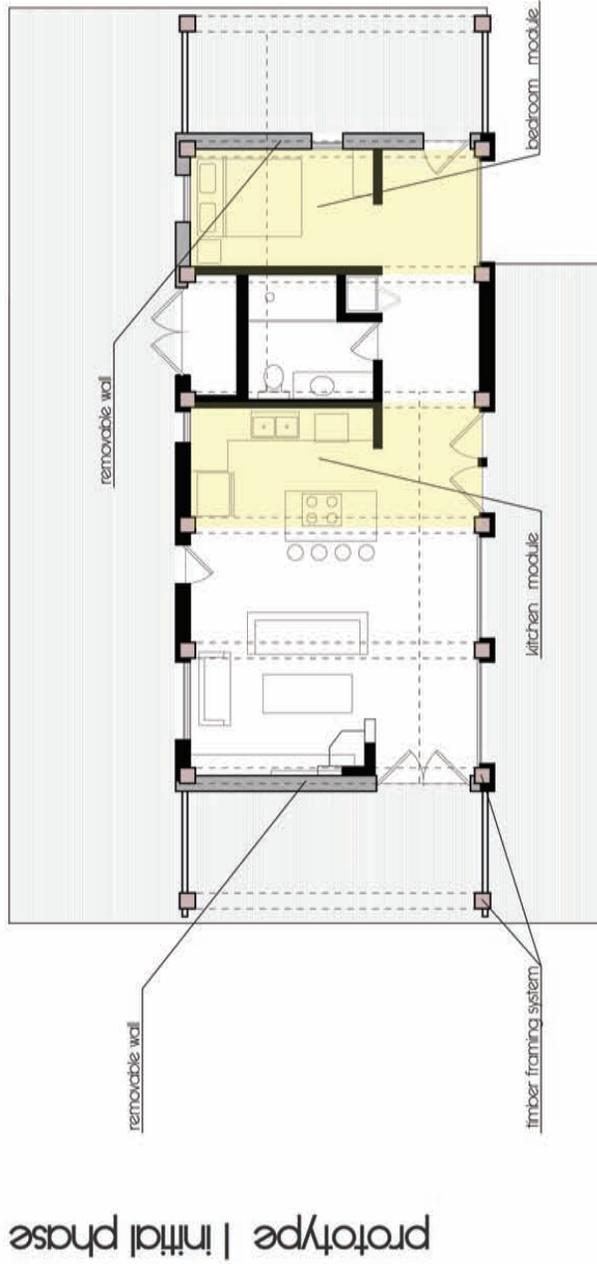
design and planning. The hybrid of the two will provide for the better of the two cultures where a new type of typology will develop.

Proposed dwelling:

Similar to the proposed site conditions, the dwelling modular will take on qualities that are Indian, in the way that space is perceived, and used, along with western notions of building and fabricating. The hope is to design a dwelling that is inherently “Indian”, but not forgetting the idea that for the passed one hundred years people on the reservation have slowly assimilated into a culture that very closely resembles western ways of living. The complexities here are that people living on the reservation do inherently identify themselves as American Indians, but in so many ways live and dwell like their counterparts off the reservation. This is where the thesis has identified the crux of the problem. The Northern Cheyenne have found themselves between two cultures, an Indian way of dwelling and a western way of dwelling, but not the better of either of the two. Here is where the Cheyenne find themselves living a life that is impoverished and needing a solution which considers a fusion of cultures.

The objective here was threefold. First to propose a method which leads to a single possible solution for a range of housing problems found on the reservation. Second, propose a series of solutions that leads to a multitude of answers. Third and most important, question the notion of identity, culture, community, and place directly in response to the Northern Cheyenne. The thesis as stated in the “methodology” part of the document states, that I’m looking for a deeper understanding of the built environment of the Northern Cheyenne, through these contextual lenses.

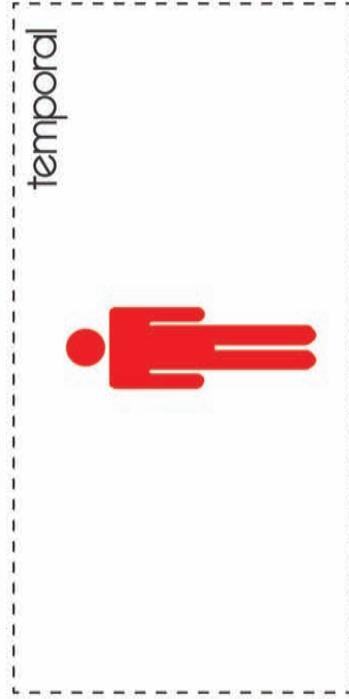
The bases of these proposals again reference and draw upon historical forms. It is here that spatial principles of dwelling for the Northern Cheyenne are analyzed, deconstructed and re-constructed to understand a contemporary interpretation of living. The tipi here becomes the main identifiable form that is bases for this research. When critically analyzed the tipi is considered a modular construction type. Where the structural poles making up the tripod can be considered as a modular unit. When erected, the tipi harmoniously forms a relationship with the physical ground. Creating a poetically symmetrical form, which provides a comfortable dwelling lodge that can be used in any weather condition year round. The challenge is to redefine this rela-

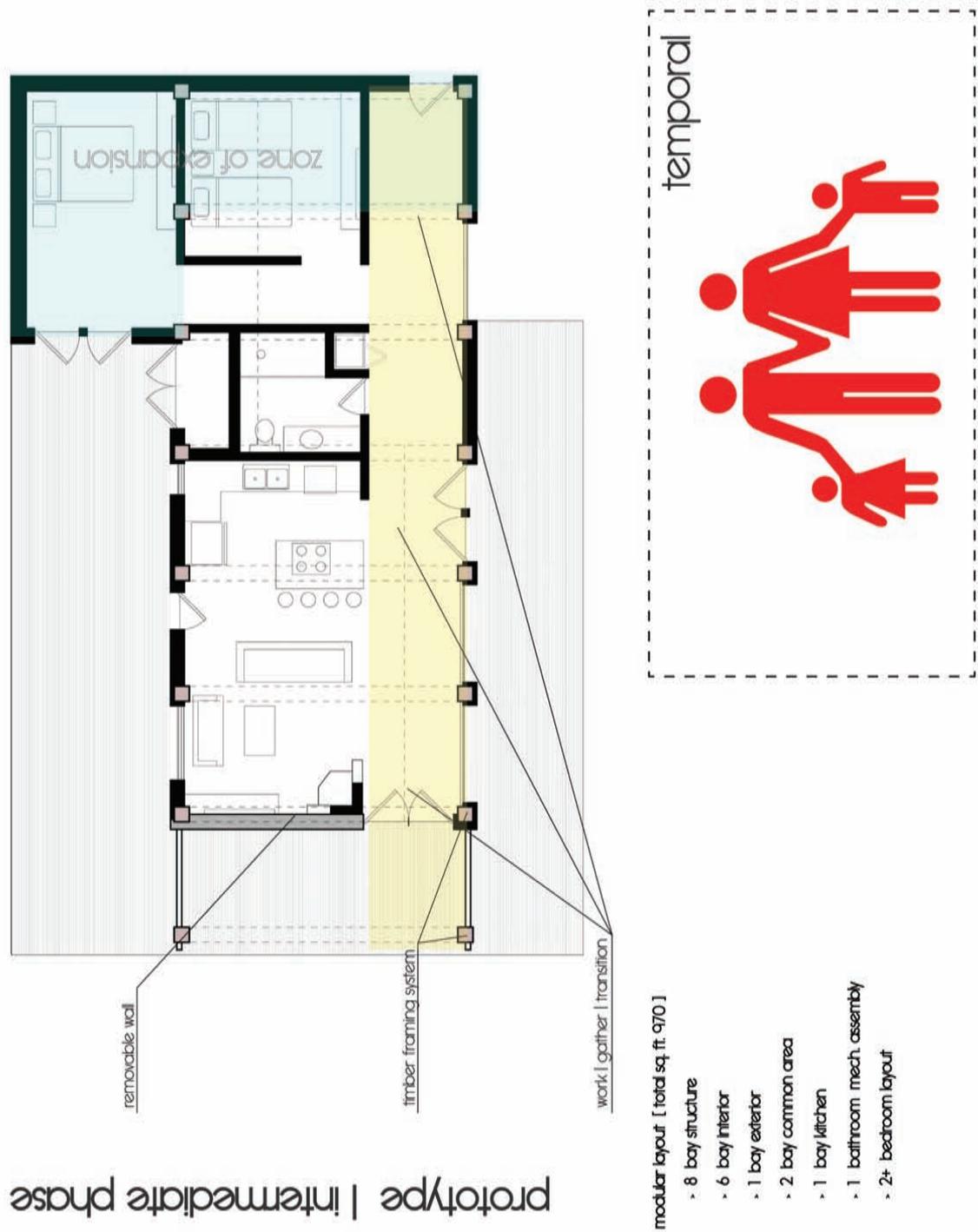


prototype | initial phase

Figure 83. Proposed module dwelling lodge, initial phase

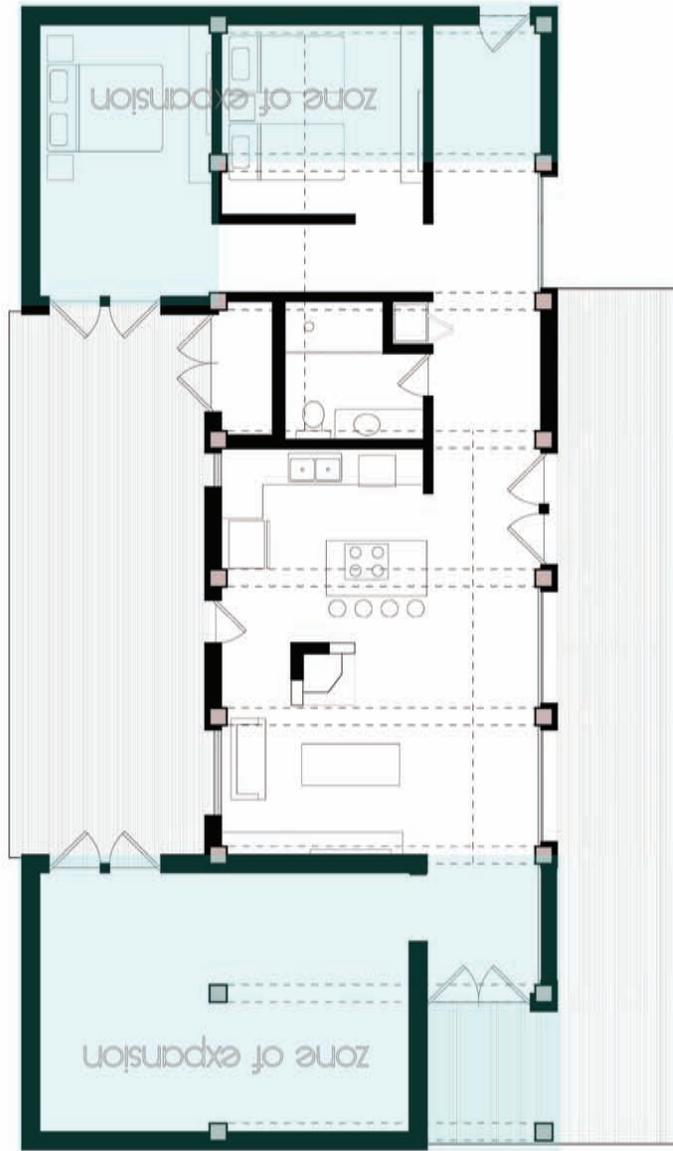
- modular layout [total sq. ft. 675]
- › 8 bay structure
 - › 5 bay interior
 - › 2 bay exterior
 - › 2 bay common area
 - › 1 bay kitchen
 - › 1 bathroom mech. assembly
 - › 1 bedroom layout





prototype | intermediate phase

Figure 84. Proposed module dwelling lodge, intermediate phase



prototype | final phasing
option one build-out

modular layout [total sq. ft. 1500]

- > 9 bay structure
- > 7.5 bay interior
- > .5 bay exterior
- > 2 bay common area
- > 1 bay kitchen
- > 1 bathroom mech. assembly
- > 2+ bedroom layout
- > 2 bay option work | bedroom

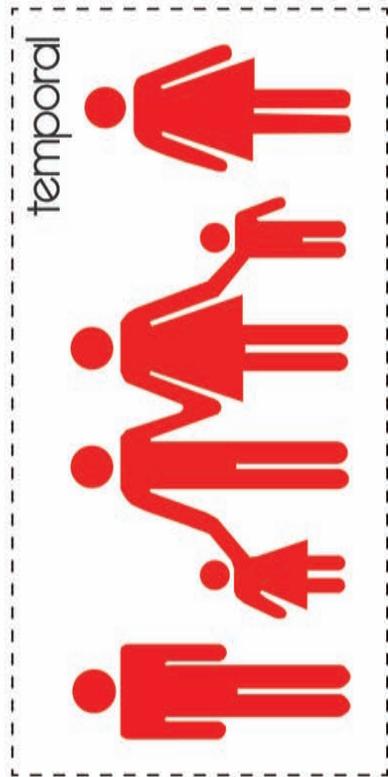
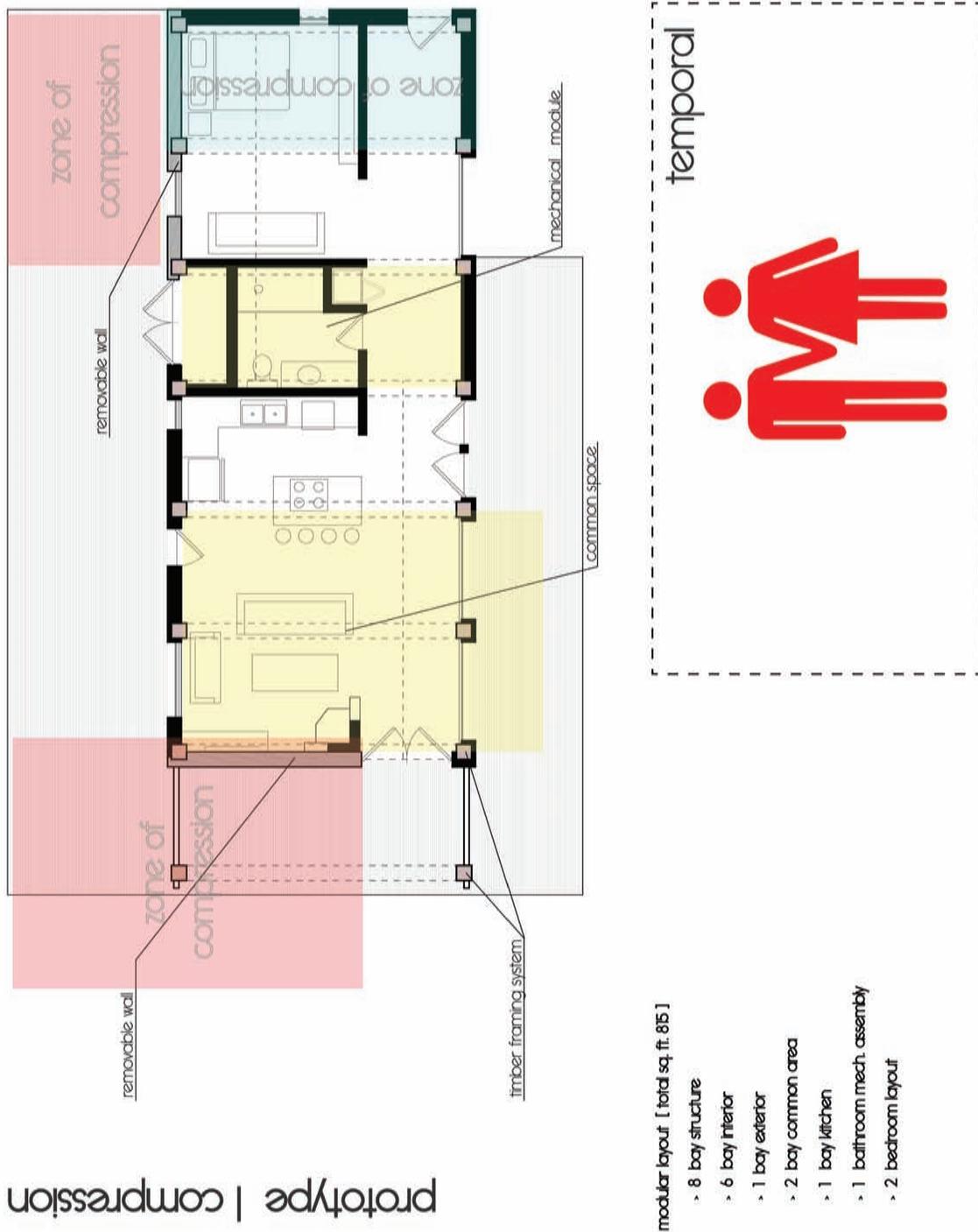


Figure 86. Proposed module dwelling lodge, final phasing, option two



prototype | compression

Figure 87. Proposed module dwelling lodge, compression phase



Figure 88. Image: designed perspective of modular dwelling lodge, sited to the exterior of the proposed urban plan



Figure 89. Image: designed perspective of modular dwelling lodge, sited to the interior of the proposed urban plan



Figure 90. Image: designed perspective of Common Lands, sited to view the interior of the proposed urban plan from across the Common Land



Figure 91. Image: designed perspective of Common Lands, sited to view the interior of the proposed urban plan, from outer edge of Common Land

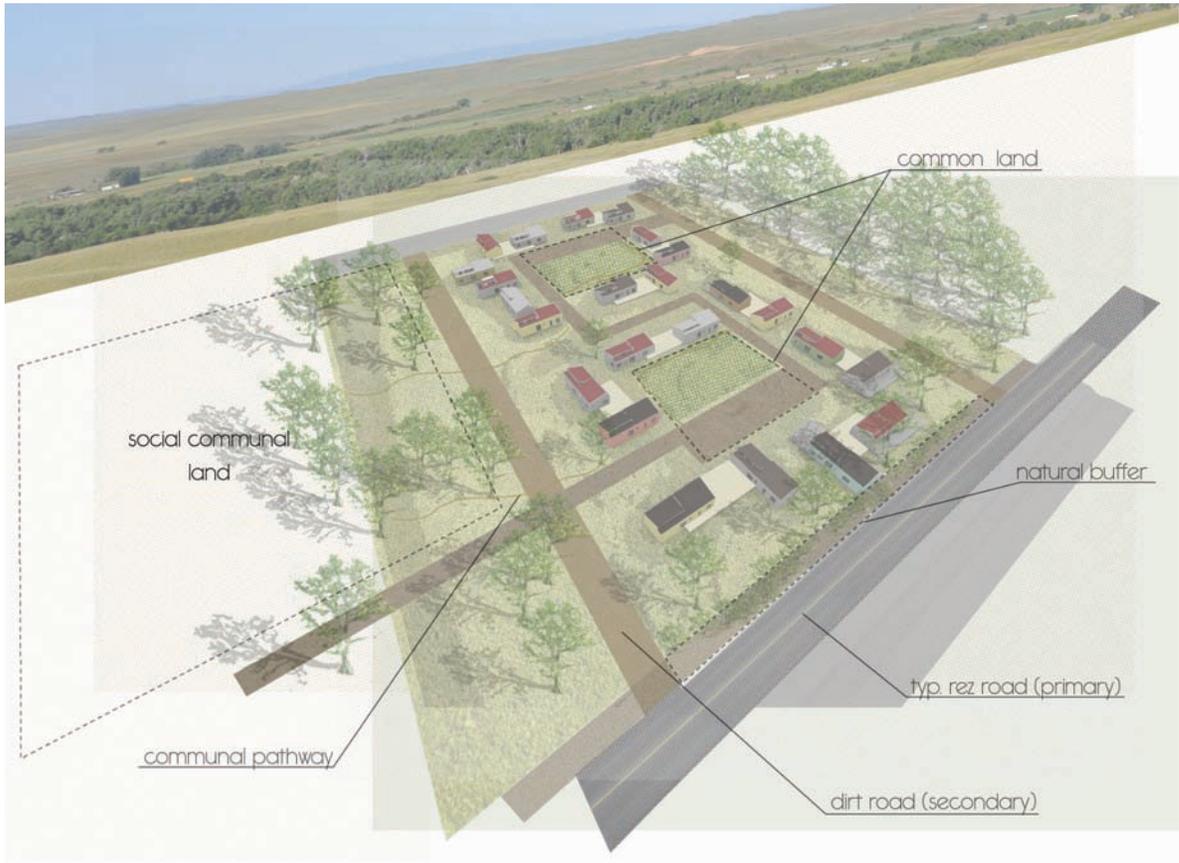


Figure 92. Image: designed aerial perspective, showing the relationship of common lands to modular dwelling lodges

tionship between the physical and built, developing a typology, which will sustain and increase in value over time.

The proposed solution was to identify a contemporary system of fabrication that would allow for a multitude of options within a defined set of boundaries. Ideally reflecting on the construction of the tipi, where if there was a need for a larger tipi, there was a need for larger poles. In the contemporary instance, if there is a need for more space within a dwelling lodge then there is a need for a system that expands accordingly.

A modular system was became a viable solution that could address a multitude of problems identified on the reservation. Early on in the thesis research it became apparent that a one off solution was not the ideal way about addressing housing on the reservation. Similar to the concept that no one shoe fits all. It was not about to design a “house” but a system that would result in a variety of options, this would lead to many housing configurations. The goal then became about how to describe an ideal solution, which then could be translated into a realistic situation on the reservation.

The above drawings, a simple modular grid was identified through spatial dimensions regularly used by the

Northern Cheyenne, and most Plain Indians. This 8-foot grid became the bases for a system, which could expand, and contract according to the inhabitants of the modular dwelling lodge. This notion of expansion and contraction helps to reinforce the urban conditions that set up an architecture of permanence. For instance, a basic modular dwelling lodge with the square footage of 675-foot that houses one-two persons comfortably, has the possibility to expand to a lodge with the square footage of 1500-foot housing six-eight persons comfortably. All these options build off the spatial principles of the tipi, where the central part of the modular dwelling lodge is considered a larger part of the communal area defined by the urban cluster in figure. 84. This communal part of the dwelling lodge then expands incrementally by the repetition of 8-foot bays, where spaces of private use are defined.

The Public Review: a critical assessment of the proposal

The proposal it seems is blurred through the need for a clearer understanding of a relationship between western ideologies and Cheyenne ideologies. This can very much be the fault of the presenter, for the crux of the thesis is a search for a contemporary way of living for the Northern

Cheyenne. Yet many of the responses fell back to western ways of thinking, or literal ways of translating historical Native forms. In many instances jurors were either perplexed by the simplicity of the proposed forms, or they questioned spatial organizations. This could be due to the lack of both verbal and graphical communication to connect the difference of western ways of living with Cheyenne ways of living.

Another critique was the need for a concrete understanding of how the modular dwelling lodge could be identified as Cheyenne. This part of the thesis that proposed a modular dwelling was in some way lacking or disconnected from the theoretical research. According to Kea Professor Ziger the relationship between the cluster's common space and the dwelling lodge's common space fell short of where it could have been. The critique here focused on a modular system, which plugged into a spine as diagrammed in the "craft" illustration. "Instead of developing a modular bay type of system, is there a way to redefine and clarify the gathering space as the core element of the proposal, and modular units plug into the core itself."

"Your plan diagrams look very much like a house plan," says one juror. Now one may understand that as "I'm reading this as a conventional western layout of a house".

Now considering this comment, is there a way developing this modular system so that it resembles not a tipi or a western house? The fault here most likely falls on graphic representation and the notion that maybe the “plan”, as we understand it is a western way of seeing, and reconsidering another form of representation might be the answer to a Cheyenne’s way of seeing.

Professor Emeritus Bechhoefer brings to question the social, political, and economic mechanisms that would help to develop this thesis into being. The development of this system might allow for the role of the architect to be fully realized. In doing this the role of the architect is defined and gives the thesis a ways in which to turn an ideal system of modular housing delivery into being. Here again the definition of a system comes into conversation, moving away from an understanding of a concrete proposal, to a way of thinking that helps to inform that latter.

The Public Review: a response

Considering the diagram, maybe it is inherently the diagram that is at fault. That the diagram(s) proposed are theoretical concepts that are just ways in which to think about spatial relationships. Where maybe the thesis was

not about the concrete physical thing, but about an abstract notion of a physical thing. So it might be that the plans proposed become more diagrammatic describing ways in which space should be planned and considered, and less about “option 1”, “option 2”, “option 3”, etc. As stated earlier in the conclusion, it was not part of this thesis to design a “house” but design a system that would result in a variety of configurations, which would lead to many spatial relationships and readings. Maybe it is a series of parts, and the connection of those parts that define the relationship of space, resulting in a conceptual “idea” that is more like a diagram and less like a conventional plan.

The thesis then starts to question what would the social, political, and economic mechanisms that would help to develop this thesis into being? Along with the role of the architect? Here the connection is to ideally develop a response to contextual, cultural, political, economical, and social needs of the community. Where identifying possibilities economic growth will allow for the theoretical part of the thesis to be realized to reinforce the larger social component outlined in the definition of the “cluster” in the urban forms. The role of the architect is then to facilitate the understanding of the abstracted diagrams to the larger public realm of the Northern Cheyenne. So that there become a dialogue

between designer and person, which creates a places which is identified as Cheyenne's way and not a western's way.

The role of the architect in this case is to assist and find ways to implement these proposals. By identifying an economical model in which to innovate and move towards a mass means of customizations and fabrication, it is up to the architect propose these new standards. Weather it is in the current US Government housing model, or formulating private means through non-profit and research based work. It is the hope that the basic and fundamental need of providing a new typology of housing is realized through understanding the pure beauty of the Northern Cheyenne people.



Figure 93. Image: interior perspective experience, showing structural relationship, and connections to the exterior



Figure 94. Image: designed perspective of Common Lands, sited to view the interior of the proposed urban plan, during a Pow-Wow



Figure 95. Image: designed perspective of Common Lands, sited to view the interior of the proposed urban plan, from outer edge of Common Land, during a Pow-Wow

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