An adaptive re-purposing of the historic Pumping Plant site along the outskirts of Miles City, Montana



A Design Thesis by Brandon Janshen

PRODUCTIVE REINTEGRATION

An adaptive re-purposing of the historic Pumping Plant site along the outskirts of Miles City, Montana

DESIGN THESIS Submitted to the Department of Architecture and Landscape Architecture of North Dakota State University by BRANDON JANSHEN

In partial fulfillment of the requirement for the degree of **MASTER OF ARCHITECTURE**

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May 2011 | Fargo, North Dakota

TITLE PAGE

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Abstract

TITLE Productive Reintegration

SUMMARY

This project will re-address the traditional function of the 'halfway house' and focus on how this transitional period can benefit both local communities and felons during their pre-release stage of reintegration. The community food cooperative serves as the basis for investigating how the incentives that both released felons, as primary contributors to the cooperative, and the local communities, as primary patrons to the cooperative, may provide for one another. These ideas will be explored through the design of a reentry program where prior offenders would come to live and work while on their way to becoming productive members of society.

Keywords

Adaptive Reuse, Agriculture, Food Cooperative, Halfway House, Prisoner Reentry Program, Recidivism, Regenerative Design

PROBLEM STATEMENTS

How can design influence the communities' reacceptance of its ostracized members?

How can design enhance an individual's self-worth?

=

CLAIM: A pre-release center with a program based on the community food cooperative, as a way to produce, distribute, and sell food locally, would be a viable outlet for successfully reincorporating formerly incarcerated felons into society.

PREMISES:

Contemporary methods for reintroducing released felons have mostly proven unsuccessful, demonstrated, in part, by the high rate of recidivism (reincarceration).

People who feel that they are a contributing member of society are less inclined to conduct criminal acts against that society.

CONCLUSION:

PRODUCTIVE REINTEGRATION

STATEMENT OF INTENT

PROJECT TYPOLOGY

PRISONER REENTRY PROGRAM

COMMUNITY FOOD COOPERATIVE

PRODUCTIVE REINTEGRATION

THEORETICAL PREMISE / UNIFYING IDEA

A community food cooperative could form societal bonds for felons while providing a necessary service for a local population.

A building environment that concentrates on the societal bonds created by taking part in the community food cooperative would be a feasible alternative for reintroducing convicts into society.

PROJECT JUSTIFICATION

The United States has the highest incarceration rate per capita in the world. A high rate of recidivism not only amplifies the situation, it also raises questions about what the system is or is not doing to reincorporate the released felons. Stripping them of their civil rights and hoping that they will find a way back into society is unrealistic; and building more prisons to house a constantly growing population of social wrongdoers is not a viable long-term solution. A reexamination of how we socially reintegrate convicts (once they have paid their debt to society) is necessary if we hope to do so successfully.

When individuals are predisposed to criminal activities, it becomes a large task to alter their behavior in a positive manner. This is typically achieved through rigorous education, peer confrontation, and group support. The released felons need community backing in order to successfully reintegrate, which needs to happen in a timely manner before the prior criminals find their way back into their previous habits as they search for ways to provide themselves with the basic needs of food and shelter (Seiter & Kadela, 2003).

All of the prior contemporary issues have culminated into my intrigue for utilizing the growing, distribution, and selling of local food sources as a way to address the social injustices faced by prior inmates. The social interactions occurring in a public market are important for creating a communal bond between the offenders and the society in which they are supplanted. The development of a program that begins during incarceration regarding education into the operations of a community food cooperative could be carried over and supplemented during the prerelease transition period. This transitional period, traditionally occurring within the confinements of a halfway house, becomes the architectural focus of this thesis.

PRODUCTIVE REINTEGRATION

THE PROPOSAL

THE NARRATIVE

Our world population continues to grow, leading to a myriad of social and environmental issues of particular interest. First, the national demand for a maintained, local food source has become the driving force for the formulation of this thesis. The recognition of both the boost in local economies, as shown by the resurgence of farmers' markets all over the nation, and the personal and environmental health considerations that a local food source suggests, have further solidified the pertinence of small communities taking matters into their own hands rather than awaiting a global intervention (Agricultural Marketing Service, 2010).

The second issue, the concept of social injustice in regards to providing viable solutions for reincorporating felons after they are released from prison, has been ongoing for decades. Although the court system has established that their debt to society has already been paid, it is quite apparent that a majority of said society is unsatisfied. This is demonstrated by their hesitance to provide work, education, or even a place to live for the reincorporated. The result of society's unwillingness to accept these reinstated members has resulted in high rates of recidivism, which costs billions of wasted tax dollars (Abadinsky, 2001).

PRIMARY CLIENT

The main purpose of the project is to find a viable solution for reintegrating offenders back into society and as such, they become the primary client.

PRIMARY USERS

OFFENDERS

Upon their release from prison, felons would be relocated and integrated into the program. The felons are responsible for their own cooking, cleaning, and other daily functions, in addition to the production and maintenance of the facilities. Learning the important skills necessary to establish themselves (as well as future food cooperatives in other communities upon successful completion of the program) becomes part of their daily routine.

GENERAL MANAGER

Acting as an overseer to the entire operation, the general manager will live on site and conduct the day-to-day procedures associated with the food cooperative and reentry program.

SECONDARY CLIENT

The localized food cooperative is supported by the communities where they reside. Therefore, the community becomes the secondary client.

SECONDARY USERS

EDUCATORS

Teachers within particular studies of agriculture, sociology, and business economics shall be employed throughout the program as their educative roles are vital to the understanding and development of the food cooperative.

PAROLE/PROBATION OFFICERS

Given the prior history of the felons, a sense of security needs to be established for all involved parties, which can be achieved by staffing probation officers. Careful considerations must be made out of respect for the felons' attempt to feel socially accepted, but cautionary measures are necessary to monitor their behavior.

Administrative

A hierarchy of management is necessary for the program to maintain a satisfactory level of functionality. A constant flux between the aforementioned users must be overseen by a group of people that all share the same goals.

OTHER EMPLOYEES

The food cooperative would also employ citizens from within the existing community. They would commute to the sites and be the first tier of social interaction for the offenders.

THE PROPOSAL

QUANTITATIVE CONSIDERATIONS

The capacity for the number of felons required to support the program has yet to be determined. This decision will later inform the amount of educators, security, and administrative personnel necessary to supplement the program functions. Parking requirements are dependent upon the amount of employees, seasonal changes, and business patterns, and will be addressed accordingly.

The program serves as a place for living, working, learning, and the sale of goods and is utilized at various times throughout the day by different contributing members. Given the daily and seasonal fluctuations inherent in a program revolving around food production, the schedule must remain flexible. It can be assumed that certain operating hours are necessary for particular functions of the program, such as the patrons' reliance on standard business hours for the purchasing of goods. Other considerations are established meeting times for the educators and maintained scheduling for security and administrative staff.

QUALITATIVE CONSIDERATIONS

The various perceptions that both society and the felons have of one another requires special attention, as the success of the program and the development of each relies on their acceptance of one another. A sense of security for both parties must also exist; the public should never feel endangered and the convicts should never feel inferior.

The convicts' transition from imprisonment to having personal freedoms is a delicate matter. Some may have medical or mental health issues that will be addressed on an as need basis.

THE PROPOSAL

PROJECT ELEMENTS

PUBLIC MARKET

The public market becomes the primary community venue for the social interactions between convicts and the general population. Funds generated through the market are used to finance the program.

FOOD PRODUCTION

A combination of indoor and outdoor gardens will be employed in conjunction with larger-scale agricultural operations for the purpose of food production.

Housing

An individually maintained living arrangement grants the felons a sense of ownership and serves as a location for them to employ life skills otherwise taken away during imprisonment.

COMMUNITY SPACES

Free interaction between members of the program should be encouraged and community spaces such as shared kitchens, eating areas, libraries, lounges, gyms, etc. should exist for this to be accomplished.

CLASSROOMS

On-site learning will be the most common form of education for the program, but some types of learning require a classroom atmosphere, and such accommodations shall be made as necessary.

Offices

Office spaces are necessary for the security and administrative personnel.



THE PROPOSAL

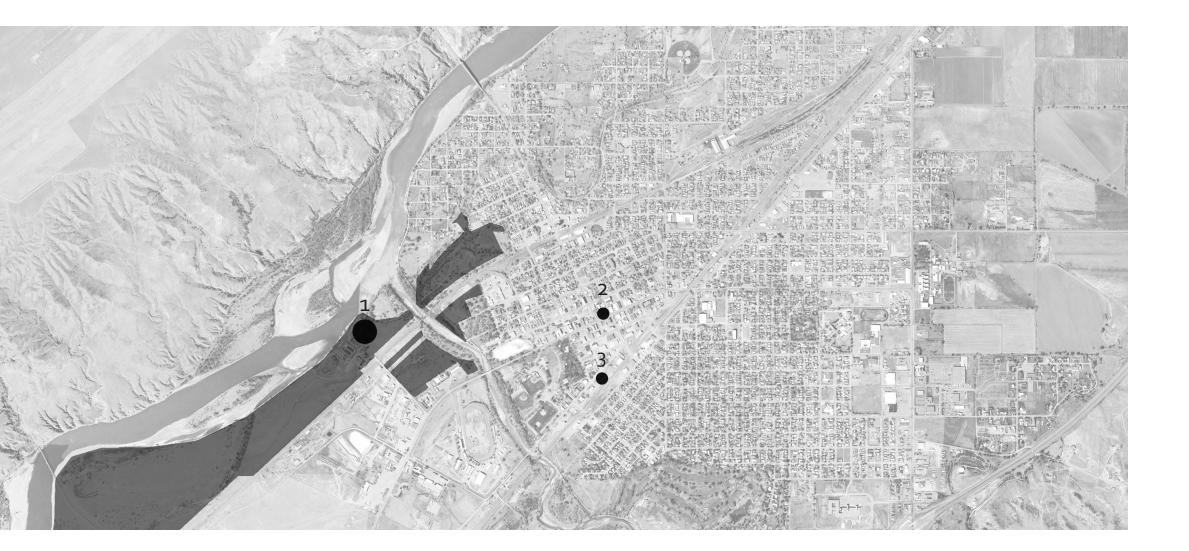
MILES CITY, MONTANA

Miles City has established itself as a crucial hub for the majority of Eastern Montana's population. Most rural families in the area take a weekly or biweekly "trip to town" in order to obtain the living essentials they are unable to provide for themselves.

Miles City, like most cities similar in size, has been overrun by chain retailers while local businesses are struggling to keep up with their foreign competition.

A sense of community pride is being lost as more and more important historic landmarks are either not realizing their full potential, burning down, or are in danger of demolition.

Much like the felons considered for this thesis program, the buildings need a new purpose for society to realize their importance within the social fabric.



THE PROPOSAL

SITE LOCATIONS

1 - HISTORIC PUMPING PLANT

A secure location on the outskirts of town converted into living arrangements with ample area for food production along the river.

2 - HISTORIC DOWNTOWN CITY BLOCK

Indoor public market surrounded with varying community amenities in the heart of the downtown atmosphere.

3 - HISTORIC RAILROAD DEPOT

A renovation for offices and classrooms would occur inside the depot, while outside there are food production and outdoor market opportunities.



The Proposal



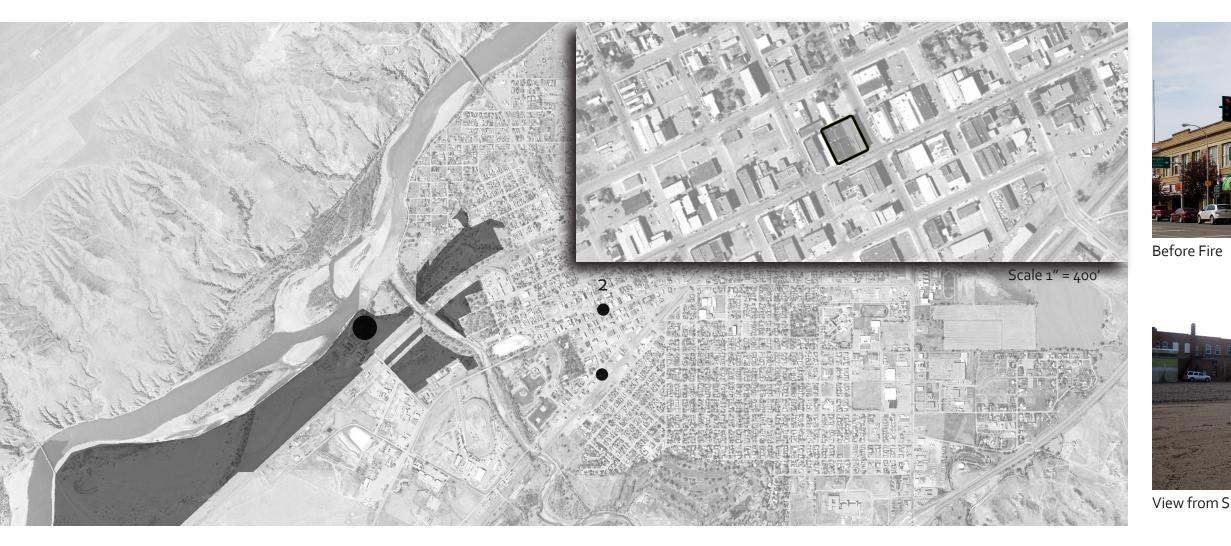


Pumping Plant Park (South)



Empty Water Tank

HISTORIC PUMPING PLANT



The Proposal





View from SE corner



After Fire



View from NW corner

HISTORIC DOWNTOWN CITY BLOCK



The Proposal

HISTORIC RAILROAD DEPOT

The Proposal

PROJECT EMPHASIS

This thesis will primarily focus on the utilization of the various social interactions that occur within a food cooperative as an opportunity to successfully reintegrate felons into the social framework of a community. A mutual benefit for the felons and the community in which they are supplanted is the ideal end result.

This is an isolated demonstration that is intended to serve as a starting point for similar programs to emerge around the United States, providing social, economic, and environmental benefits to communities nationwide.

THE PROPOSAL

PLAN FOR PROCEEDING

It is important for the theoretical premise/unifying idea to remain as a continued point of departure throughout the entire development of the project. The investigation and analysis of the established sites, project typologies, and programmatic requirements shall be conducted within historical and contextual frames of reference.

A mixed method quantitative/qualitative approach will be used while following a concurrent transformative strategy to guide the process by employing the theoretical premise/unifying idea for the cooperative utilization of both the quantitative and qualitative research findings.

All research and design work will be organized and digitally documented on a regular basis. Both physical and digital developments will be presented for review and discussion during an established meeting time with a thesis advisor.

At the closing of the thesis project, a digital submission of all recorded work, both drafted and composed, will be made available to all interested parties and submitted to the digital commons as a conclusion to my graduate studies.

PAROLE/PROBATION

In the United States, we employ a unique system of probation and parole (P/P) that is comprised of contradictory goals and competing expectations. Americans want a system that punishes criminals for their wrongdoings, rehabilitates them into lawabiding citizens, and deters them from any future criminal acts. During this time, the criminals must be incapacitated and isolated from the general public while they prepare for reintegration into the society that banished them in the first place. Add to these goals the expectation for achieving them in a humane, constitutional, and cost-effective manner, the people responsible for parole and probation find themselves in a nearly impossible predicament (Abadinsky, 2001, pp. 1-2).

Often times, the conditions of probation are too restrictive, unreasonable, or unrealistic, which creates tension between the probationer and their probation officer. The basic condition, as recommended by the American Probation and Parole Association, is that the individual lead a law-abiding life during the probationary period. The role of the probation officer is to guide the individual in the right direction through regular meetings where both parties work towards the common goal of successful reintegration (Abadinsky, 2001, pp. 111-112).

Lately, several ethical questions have come into the public spotlight that determine whether offenders are totally free and responsible during their probation, as well as whether society has any obligation to provide community support. Other developments in community supervision, such as house arrest, electronic monitoring, and intensive supervision, to name a few, raise other important ethical considerations (McDowell & Mongold, 2008, p. 45).

THREE THEORIES OF PROBATION

Conditional Privilege: Probation is an act of mercy by the judge that has not been earned by the defendant. As such, probation can simply be withdrawn if any condition of the privilege is violated.

Contract Theory: Each probationer is required ccccertain terms in return for conditional liberty. As in any contractual situation, a breach of contract can result in penalties – in this case, revocation of probation.

Custody Theory: Persons placed on probation in lieu of imprisonment are in the legal custody of the court and, therefore, their constitutional rights being abridged accordingly. Under such conditions the court has the authority to move the convict from a community setting into a prison setting in the event of a violation of the conditions of supervision (Abadinsky, 2001, p. 128). TASKS OF P/P OFFICERS Information Manager Evaluator Enabler Educator Broker Advocate Advocate Mediator Community Planner Detection Enforcer (Abadinsky, 2001, p. 315)

The Program

THE BIG QUESTION

An employment-training instructor for ex-inmates in New York City has to deal with the "Big Question":

You don't check 'yes.' You don't check 'no.' You don't leave it blank. You put down 'Wish to discuss during interview'

Answering "yes" or leaving it blank almost guarantees rejection.

Answering "no" is lying and grounds for dismissal.

(Guggenheim, 1998, p. 8)

RECIDIVISM

The conditions presented by the previous theories are instated to ensure protection of the community from any violation by the probationer. There are two types of violations that are grounds for probation revocation. A technical offense is in violation to the conditions of the probation and a new offense involves a new crime conducted by the probationer. Both violations attribute to the nation's high rate of recidivism (Abadinsky, 2001, p. 116).

A majority of the re-occurring offenders have been noted as either unemployed or employed within what is referred to as the secondary labor market – minimum wage jobs that offer no real advancement. This relates to the classical model of criminal activity as it is defined as a response to one's financial situation. It can also be attributed to the lack of value associated with their employment leading to behavior that could jeopardize it (Abadinsky, 2001, p. 356).

To complicate matters, the stigma of conviction often results in a prejudice towards the offender. For instance, 6 states deny the right to public employment to convicted felons; 10 states leave it to the discretion of the employer; and 12 states apply a "direct relationship test" to determine suitability. In some areas of the country, offenders must register as a criminal, which preserves the stigma even further. This produces a conflict in values as society is attempting to protect itself at the cost of thwarting reintegration efforts of the offenders (Abadinsky, 2001, pp. 360-361).

Several factors over the past few decades have resulted in the today's overwhelming incarceration rates. Since 95% of inmates are eventually released into a society that is doing little to reincorporate them, we find ourselves in a vicious cycle that results in more crime indirectly paid for by our tax dollars (Fisanick, 2010, pp. 188-190).

PRISONER REENTRY PROGRAMS

During the 1960s, a shift regarding "correctional" expectations occured, which is of specific pertinence to this thesis project. During this time, it was realized that the small cells shared with a potentially aggressive cellmate was not conducive to promoting social behavior. The prison systems left little room for self-assertion and decision-making, which happen to be two very important prerequisites for living in the free community. This new understanding led to several innovative programs that offered community-based corrections. Specific examples include therapeutic communities, halfway houses, and work release (Abadinsky, 2001, p. 196).

The example that is more related to the thesis project is a therapeutic community (TC). The main intentions of a TC are global changes in lifestyle reflecting abstinence from illicit substances, elimination of antisocial activity, increased employability, and prosocial attitudes and values. TCs take place in prison and have restrictive entry requirements that test an applicant's motivation for reintegration, and once accepted, they are kept busy in a structured environment that offers little time for idleness (Abadinsky, 2001, pp. 373-374).

The last two programs, halfway houses and work release, are of particular interest to this thesis project as they both focus on placing the offenders directly into the community as active participants. The main difference between the two programs is where the individual resides. The halfway house involves probationers and provides a place for them to live for a predetermined amount of time while they seek their own means of support. The work release program deals with current inmates who are granted the privilege of leaving the prison, typically for a day, to work outside within the community before returning at the end of the workday (Abadinsky, 2001, p. 198).

EMPLOYMENT AND RECIDIVISM

"Each year U.S. prisons release more than 400,000 criminal offenders to their communities. Most of those released will not remain crime free, and national statistics show that within 3 years of release, 40 percent will be returned to prison or jail. Experts debate the reasons for such high recidivism rates, but all agree that the lack of adequate job training and work opportunities is a critical factor. Offenders often have few marketable skills and training and, as a result, have a difficult time securing legitimate employment. With no legitimate income, many resort to crime"

(Petersilia & Turner, 1996, p. 1)

The Program

CREATING HARMONIOUS URBAN-RURAL LINKAGES

There are three key elements to realizing this vision:

Leadership: Constructing meaningful relationships throughout the community between all participants; using resources creatively and effectively to generate ideas for community outreach and involvement.

Collaboration: Diverse representation on boards, committees, and planning groups; participation between all spheres of the community.

Politics: Citizens should have interactive debates regarding purpose, value and power; pooling intelligence to achieve maximum human good.

(Feenstra, 1997, p. 34)

COMMUNITY FOOD COOPERATIVES

All over the United States, people are establishing sustainable, local food programs tailored to each community's needs. Local food production and markets are being set up aiming for economic viability for farmers and consumers, sustainable production and distribution, and an enhancement of social equity for all community participants (Feenstra, 1997, p. 29).

Growing consumer interest in obtaining fresh products has given rise to the popularity of farmers markets all over the nation. As of 2009, there were 6,132 farmers markets nationwide; 900 operating in cold-weather climates. These markets grant consumers the possibility of accessing locally grown, farm fresh produce while enabling the farmers to develop a personal relationship with their customers (Agricultural Marketing Service, 2010).

Several small and medium size producers enter the marketplace through the farmers market as it gives them a chance to personally interact with the consumers and educate them about their products. The local communities are reciprocally benefited by the boosts in local economies, thriving neighborhoods, vibrant civic displays, and access to fresh, healthy food sources (Farmers' Market Services, 2010).

Another demonstration of the growing popularity of food cooperatives is the emergence and success of Community Supported Agriculture (CSA). CSAs offer a direct-to-consumer option for consumers to purchase advance shares of a farm's anticipated production with the intention of regular deliveries throughout the growing season (Community Supported Agriculture, 2010).

The Program

MASLOW'S HIERARCHY OF NEEDS

Level 1: The need for food, water, shelter, and warmth

Level 2: The need for physical safety, security, and protection

Level 3: The need for love, attention, and closeness to others

Level 4: The need to feel valued

Level 5: The need to realize one's potential

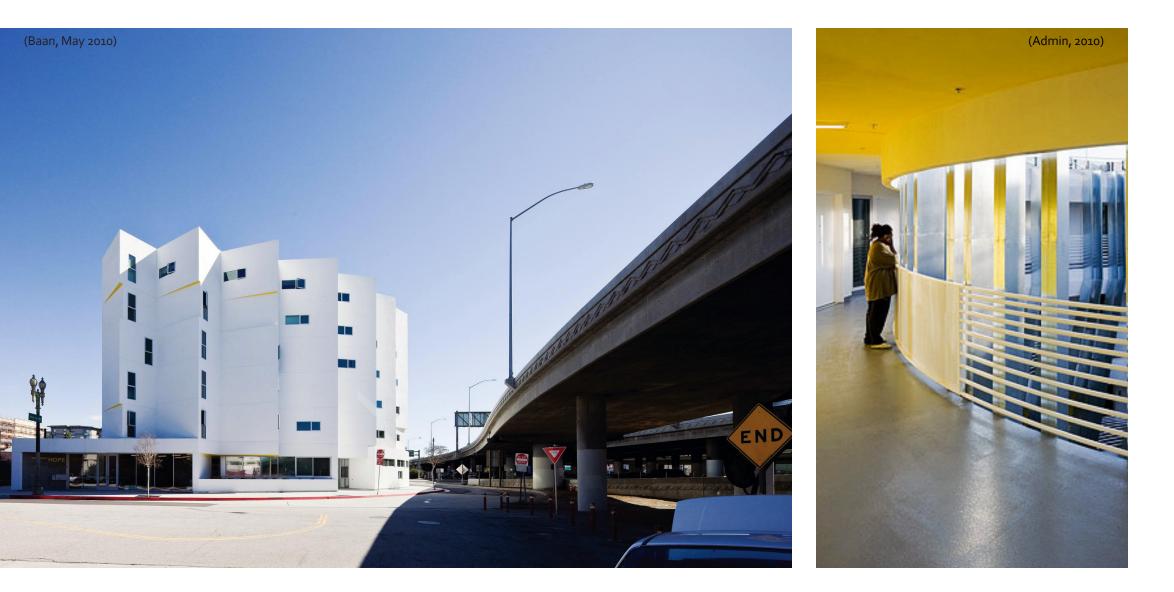
(Maslow, 1946)

SUMMARY

Our nation has spent billions of dollars on protecting society from its criminal offenders, yet we have collectively arrived at a scenario where offenders are being repeatedly incarcerated as they are unable to find a foothold within society. Instead of all involved parties blaming one another, it is important for them to realize that the situation has resulted from a failure by both the inmate and the release and reentry policies put in place by society (Seiter & Kadela, 2003).

Several programs have demonstrated aspects of success, but none have revealed a plan for assured results. Society's unwillingness to accept the probationers back into their communities has been found to be the most detrimental of all contributors to the high rate of recidivism. A logical response would be to establish a public incentive for accepting the released inmates in a manner that allows the felons an opportunity to permanently establish themselves as productive members of society.

The community food cooperative, in the form of farmers markets, CSAs, etc., appears to be a timely answer to the issue at hand. Nationwide, communities are looking for a local food source while thousands of released inmates are seeking gainful employment to provide for their own basic needs in the same communities. The food cooperative offers the probationers an opportunity to demonstrate their interdependence to the community.



THE PROGRAM

PROJECT TYPE | Affordable Housing LOCATION | LOS Angeles, CA CONSTRUCTION COST | \$18.4 million

PROJECT SIZE | 53,000 ft² COMPLETION DATE | Completed 2010

ARCHITECT | Michael Maltzan Architecture CONTRACTOR | Westport Construction OWNER Skid Row Housing Trust

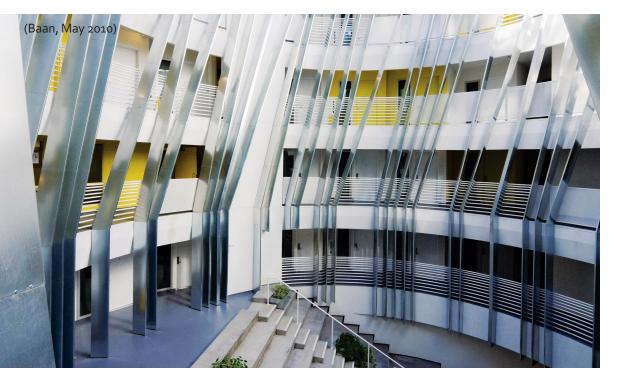
(Baan, May 2010) GARANTANI

New Carver Apartments

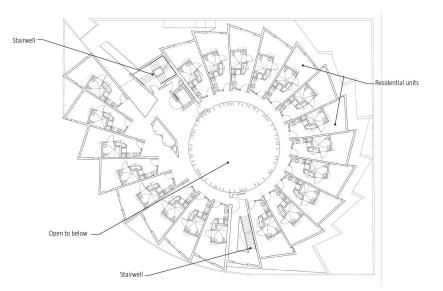
The six-story apartments were designed for some of the area's neediest population and serves as a demonstration that affordable housing can have a positive impact on the neighborhood.

"These projects have just as much potential to be 'architecture' as any of the projects we do. And because they are such a fundamental part of the urban, social, and political fabric of the city, architecture is ieven more necessary."

-Michael Maltzan



Typical Residential Floor Plan

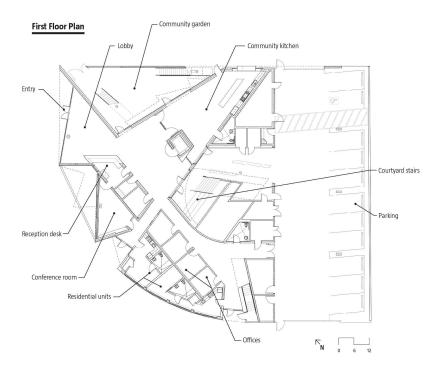


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PRODUCTIVE REINTEGRATION

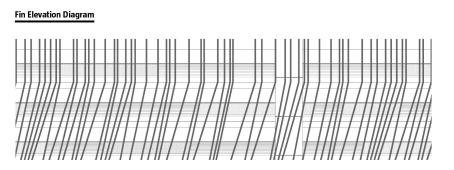
The Program



New Carver Apartments

The first floor plan consists of gathering spaces and tenant support services. On this level, the nearby freeway inspired the use of exposed concrete that continues into the courtyard and forms the prominent stairway. Small, 304 square foot, studio apartments radiate around a centralized courtyard. Since the living units are so compact, most residents rely on the shared spaces. This creates opportunities for public interactions and gives the previously homeless tenants a 'chance to reemerge'. (Zeiger, May 2010).

Custom-made galvanized sheet metal fins form a privacy screen around the 40-foot-diameter courtyard and mask the structural steel columns, roof drains, and guardrail posts (Zeiger, May 2010).





The Program

CONSTRUCTION COST | \$18.4 million

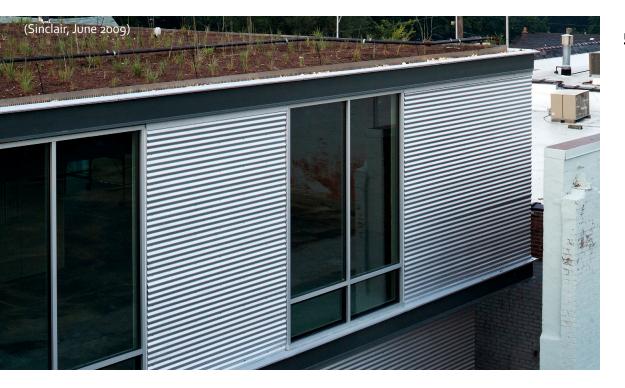
PROJECT TYPE | Mixed Use Development LOCATION | Kansas City, MO PROJECT SIZE | 12,500 ft² COMPLETION DATE | Completed September 2008

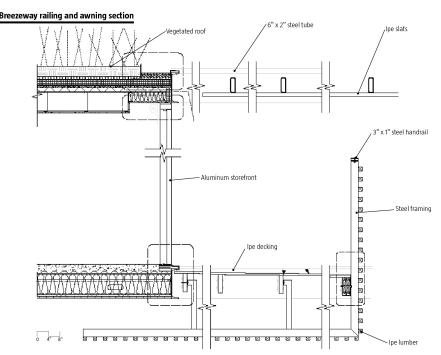
ARCHITECT | El Dorado CONTRACTOR | Hoffman Cortes OWNER | Botwin Family Partners, LLP



BOTWIN BUILDING

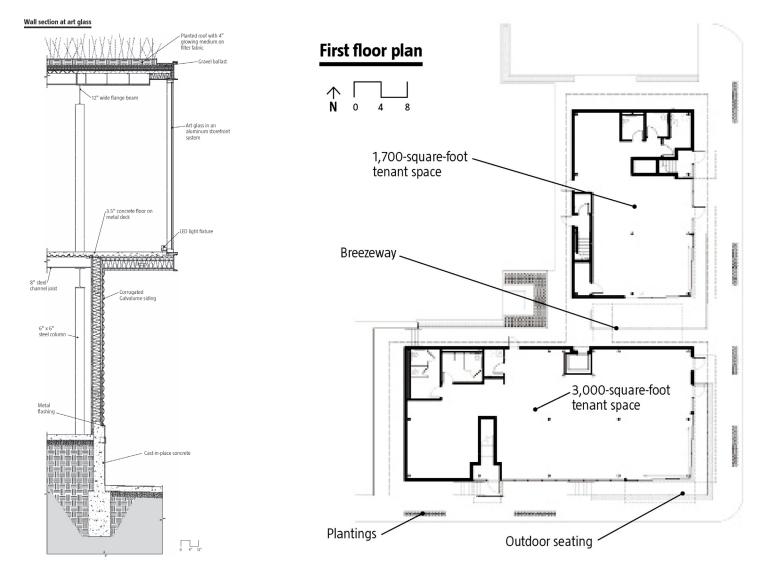
"When developer Diane Botwin stood on a Kansas City, Missouri street corner in February 2007 and watched her flagship building - purchased by her parents 34 years earlier - burn down, she had to balance her own emotional loss against that of her tenants. She also had to figure out how to proceed: Rebuild the original 1923 structure, beloved flaws and all, or start fresh..."







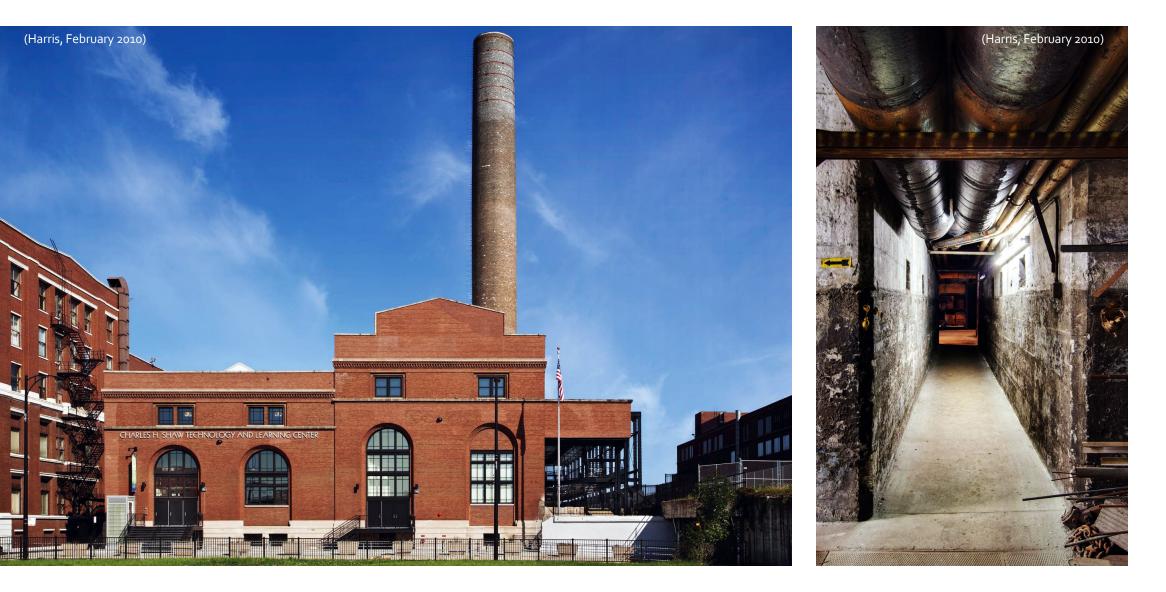
The Program



BOTWIN BUILDING

The new building looks nothing like the original, but it still functions as a mixeduse space for community gatherings. At 12,500 square feet, the building is designed to host four commercial tenants such as restaurants and coffee shops (Gerfen, June 2009).

The second floor cantilevers out, which shades the ground-floor patios underneath. A local artist design for the 200-foot-long public installation was fritted into the second story glazing to provide a sunshading effect into the tenant spaces as well as an added aesthetic value. Stormwater runoff, a major problem in the location, was negated by a vegetated roof that absorbs the rainwater before it ever meets the sewer system (Gerfen, June 2009).



THE PROGRAM

PROJECT SIZE | 90,000 ft² COMPLETION DATE | Completed 2009 CONSTRUCTION COST | \$40 million

PROJECT TYPE | Mixed-Use Development LOCATION | Chicago, IL

ARCHITECT | Farr Associates CONTRACTOR | Pepper Construction Co. OWNER | Homan Arthington Foundation

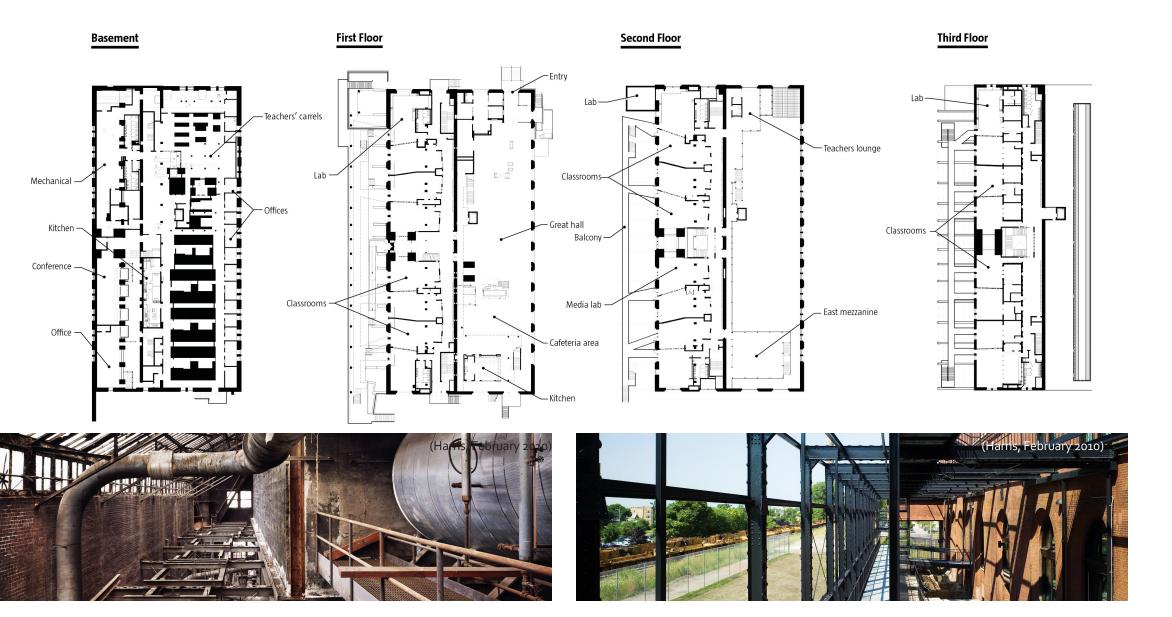
CHARLES H. SHAW TECHNOLOGY CENTER

The intention was to create a LEED Platinum high school full of modern technologies while restoring the original structure and some of the machinery to preserve a the building's past.

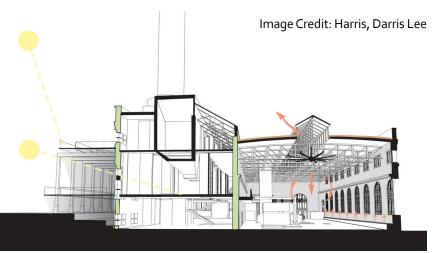
"We had experience with schools, sustainability, and historic preservation, so the idea was to use this [expertise] to create an environment that could be used as a didactic teaching tool."

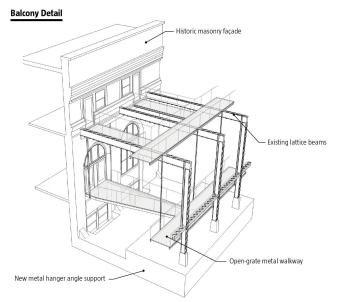
- Jonathan Boyer, firm principal





The Program





CHARLES H. SHAW TECHNOLOGY CENTER

From the hall, doorways cut through the original thick brick dividing wall and into the classroom wing, once home to the plant's massive boilers. What was once a 75-foot-high space laced with catwalks and open metalwork stairs has been subdivided into three floors to accommodate lab spaces and classrooms. The restored great hall still retains its glazed brick and much of the original floor tile. Anything too damaged to be retained was replaced with similar materials. The space is now used for assemblies and as a cafeteria; and a mezzanine mezzanine houses a teachers lounge (Gerfen, February 2010).

Green measures include a field of eighty-four 350-foot-deep geothermal wells, a rainwater retention garden, and a green roof. The architects submitted enough credits to achieve LEED Platinum (Gerfen, February 2010).

A massive system of steel catwalks and stairs on the building's south side, hung off of the original structural frame and accessible from every classroom, serves primarily as fire exits and doubles as a shading device (Gerfen, February 2010).

The Program

SUMMARY

All projects chosen for the case studies research were selected because of their direct typological similarity to the program for the selected thesis project sites.

The New Carver Apartments, as affordable housing for a population traditionally shunned by the majority of society, can be directly related to the Historic Pumping House and its intended use as communal living for the primary clients.

The Botwin Building and the Historic Downtown City Block are located in similar urban settings and were both decimated by a fire. The sensitivities to the clients and communities' needs/attachments become one of the most important considerations.

The Charles H. Shaw Technology Center is a wonderful adaptive re-use into a school and although the scales are entirely different, The Historic Railroad Depot will take on the same function.

The typologies of the chosen case studies are very different from one another, but there happens to be substantial overlap when considering their application to the thesis project.

The New Carver Apartments have an institutional aesthetic that is borderline prison-like. During the transitional period for the felons, it could be of importance to have these subtle reminders of a place they once resided in at all of the project sites.

The Botwin Building demonstrates what I believe to be an outstanding solution that paid close attention to the sensitivities of the clients needs. The chosen program for the thesis project

is loaded with sensitivities between the client and the community

The Charles H. Shaw Technology Center is a great example of how to exemplify a building or its site's historical context in a way that educates it users of its new purpose.

MILES CITY, MONTANA

The earliest known history of the area begins millennia ago with the pictographs and medicine wheels created by nomadic aboriginal tribes believed to be following mastodons. Centuries later, buffalo replaced the mastodons and known Native American tribes, such as the Northern Cheyenne, Crow, Hunkpapa, and Ogalala Sioux would occupy the area until the military began their campaign to eradicate their population (Easton, 2000).

Near this area, the Battle of Little Big Horn (Custer's Last Stand) took place in June of 1876. After this battle, and in response to the raiding bands of Native Americans, Congress approved the construction of Post Number 1 on the Tongue River. Once complete, the Tongue River Cantonment began under the command of Colonel Nelson Miles. Shortly thereafter, the cantonment moved a few miles to the location of present day Miles City and was renamed Fort Keogh in honor of Captain Myles Keogh, who was killed at the Battle of Little Big Horn. The growing town of Miles was reliant on the services and soldiers stationed at Fort Keogh until the fort was closed in 1898. Miles, or Milestown, was named after General Miles, who was notorious for banning alcohol at the post, and it was the soldiers' pursuit of ladies and liquor that provided the customers for the famous saloons and brothels that established Milestown (Easton, 2000).

In early 1877, Big Horn County was renamed Custer, and Miles became the new county seat. Eventually, the area became known as Miles City and was infamous for cowboys, liquor, gambling, brothels, and anything else you could associate with the Wild West. The town was growing and acquired 'respectable' businesses that brought in sheepherders and cattle ranchers searching for new hopes out west. When the railroad arrived, Miles City solidified itself as the hub of eastern Montana and remains as such to this day (Easton, 2000).

(Huffman, 1955)





(Huffman, 1956)





The Program





HISTORIC PUMPING PLANT

Located on the banks of the Yellowstone River, the original pumping plant was constructed in 1910 as Miles City's first sanitary source of drinking water.

Due to the growing population resulting in an increased demand for water, the pumping plant added a mirrored set of large concrete basins in 1918 and another set in 1925. The facility was able to function at this capacity for almost fifty more years.

In 1973, a new, more state-of-the-art water treatment plant was constructed in the same vicinity (City of Miles City, 2010).

The original pumping plant was partially converted into the Custer County Art & Heritage Center in 1977 and has been in operation ever since (CCAHC, 2007). The Custer County Art & Heritage Center is listed in the National Register of Historic Places and since its opening, it has earned the Montana Governor's Preservation Award for the most adaptive reuse of a historic structure and the Montana Governor's Award for the Arts (CCAHC, 2007).

Currently, the Center is applying for grants to restore the buildings' facade and insulate the rest of the concrete basins with the intention of expanding the building to include more classrooms, work rooms, and galleries.





HISTORIC DOWNTOWN CITY BLOCK

The historic downtown block consists of three lots that have changed owners several times over the years. At one time or another, each lot took on the following businesses (Allison, 2010):

General Merchandise Store Clothing Store Furniture Store Grocery Store Movie Theater Floral Shop Casino Coin Store Restaurant

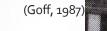
Throughout its history, the city block remained a community gathering place that helped maintain the economic and social focus of the area (Allison, 2010).

The buildings themselves were owned and built by some of the most influential characters in the history of the town, and their foresight and business sensibilities were key to the success in the developing stages of the city (Allison, 2010).

On March 23, 2009 a fire enveloped the downtown city block, causing the demolition of the buildings on the three sites being utilized for the project.

Since the disaster, Main Street Grind, a bakery/eatery, has emerged on half of one of the sites and construction for the new Cellar Casino is underway.







The building was in full operation until 1971, when AMTRAK took over all passenger operations in the area. It has since been in danger of demolition as its current owners, BNSF Railway Company, see it as a liability, but a local movement is currently in the process of raising funds to purchase and restore the historic building (Allison, 2010).

PRODUCTIVE REINTEGRATION

The Program







HISTORIC TRAIN DEPOT

When the Northern Pacific Railroad arrived in Miles City on November 1881, it cemented the future of the community as an important transportation hub in southeast Montana. The depot has undergone a couple of renovations at its original location before being rebuilt in 1923 in its current location (Allison, 2010).

The following is a personal account that speaks of the depot's rich past:

"We wonder how many folks recall the third building at the site of the Northern Pacific depot. There was the Northern Pacific passenger depot, just about where the present depot stands, and there was the Northern Pacific freight depot on the right of way on the east side of South Sixth Street, and there was a small building which stood just east of the passenger depot. Perhaps some of our readers remember the old depot, but it is our conjecture that you have forgotten the small octogonal-shaped exhibit building. The Northern Pacific displayed various kinds of crops raised in the community in this building, and the passengers, looking from the trains, got a pretty good idea of what we could raise in this locality.

It was the custom as a diversion for folks to go down to the station to see the trains arrive and depart, especially during the day. We were shown a couple of kodak pictures recently of scenes taken at the depot. In one of these pictures is a group of local people consisting of Tom Butler, Allie Holt, Corma Ireland, Marion Gordon, Ada Bennett, Mrs. Leo Harmon and Grace Ireland, all standing about this miniature exhibit hall. On the other picture are: C. B. Towers, J. B. Collins, "Skew" Johnson and George Farr, all prominent business men of that day, standing by the tracks, awaiting the arrival of the train. The possessor of these pictures stated that her parents denied her the privilege of joining the young crowd who "met the train," a fact she regretted very much at the time" (Clarke, 1961, pp. 51-52).

The Program

ACADEMIC GOALS

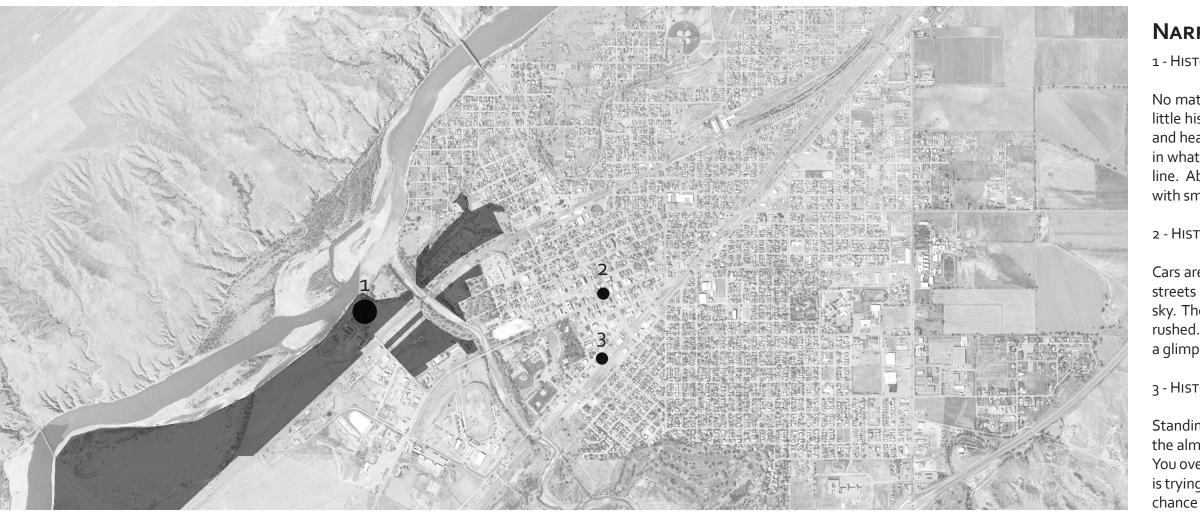
This thesis project will become a public piece of academic work for anyone to view and scrutinize. My hopes are that all information utilized throughout the development of the project is reliable and that my ideas become just as pertinent to an ever-growing knowledge base inside and outside the architecture department.

PROFESSIONAL GOALS

This thesis project will be a way to demonstrate to the professional community that I am capable of thinking through a design problem and am able to develop a meaningful solution.

Personal Goals

The ideas presented in this thesis project will forever be a part of who I am and throughout my professional development, I have every intention of being involved in the promotion of local programs like those presented in this document.



The Program

NARRATIVE

1 - HISTORIC PUMPING PLANT

No matter which route you take, the bridge signifies your departure from in-town to the outskirts of city limits. On this short journey to the pumping plant, you notice little historical landmarks lining the highway, hinting at a rich past that the locals hold so dear. You turn (left or right, depending on the route) onto Pumping Plant Road and head towards the mighty Yellowstone River. Along this road, several businesses, ranging from welders to heavy machinery construction companies, stake their claim in what appears to be an impromptu industrial district. Looking forward down the road, there is a man-made horizon: an earthen dike that supports a rundown railroad line. Above this dike there is a tree line that signifies the river's edge. As you go over the hill, a secret is revealed: the old pumping plant, almost in its original glory, but with small artistic manipulations signifying its new purpose.

2 - HISTORIC DOWNTOWN CITY BLOCK

Cars are constantly zipping around downtown, stopping near their destination long enough for people to get what they need before taking off to another location. The streets are mainly hardscape from storefront to opposing storefront, and almost all views are comprised of the same stratification: asphalt, built structure, then endless sky. The lack of vegetation, save a few skinny trees and a pocket park, along with the lack of loitering people makes for a very impersonal aura, and one feels immediately rushed. The downtown city block was a chasm shortly after the fire burned down the three lots, but since then, a new little bakery and its street-front patio have provided a glimpse of hope for a new budding downtown.

3 - HISTORIC RAILROAD DEPOT

Standing on the south side of the depot, your sight line goes on for miles in either direction as you look down the tracks. A somewhat barren landscape is interrupted by the almost too frequent passing of freight trains primarily hauling eastward. You turn around and see a dilapidated building, boarded up to prevent any more vandalism. You overlook the building and notice a forest of tall trees in the distance and a water tower signifying the nearby Riverside Park. You look back to the building and realize it is trying to tell you a story of days long ago; a time full of excitement. You can tell that this building had already had its heyday, and that it would do anything for one more chance to relive those moments once again.



The Program

Soil Types and Water Tables

1 - HISTORIC PUMPING PLANT 489A - Spinekop silty clay loam, o to 2 percents slopes

2 - HISTORIC DOWNTOWN CITY BLOCK
31A - Ryell very fine sandy loam, o to 2 percent slopes

3 - HISTORIC RAILROAD DEPOT 79A - Yamacall Ioam, o to 2 percent slopes



The Program

Soil Types and Water Tables

1 - HISTORIC PUMPING PLANT

Spinekop silty clay loam o to 2 percents slopes

Soil Order: Inceptisols Suborder: Ustepts Great Group: Haplustepts Subgroup: Aridic Haplustepts Family

Particle Size: Fine-Loamy Mineralogy: Mixed CEC Activity: Superactive Soil Temperature: Frigid

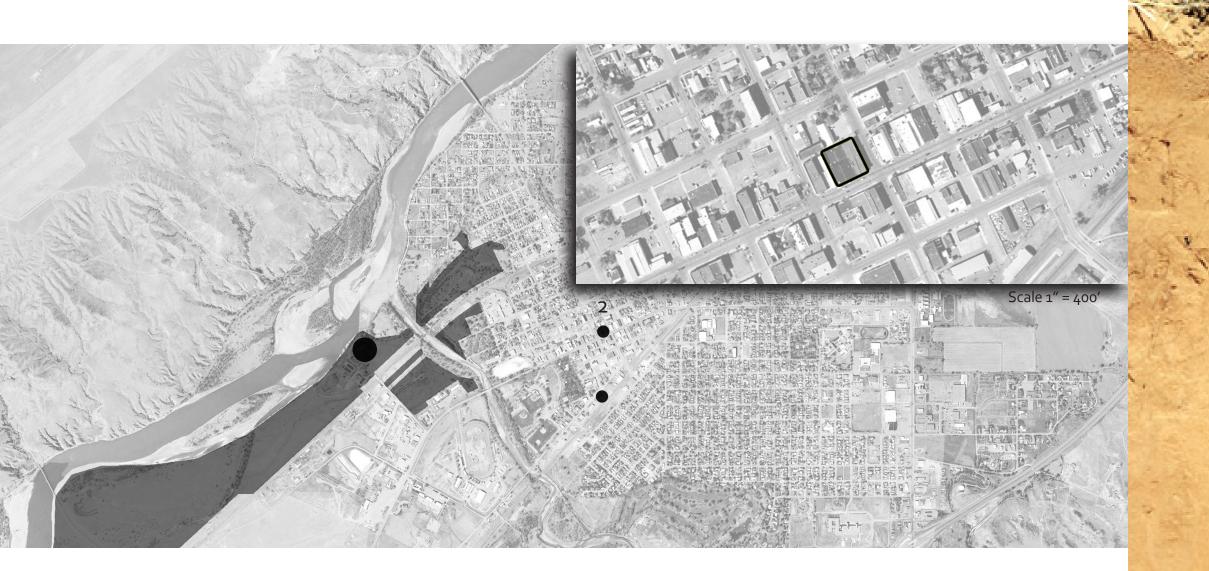
Elevation: 1,900 to 4,300 ft. Frost-free period: 110-135 days Landform: Stream terraces Down-slope shape: Linear Across-slope shape: Linear Parent material: Loamy alluvium

Drainage class: Well drained Depth to water table: > 80 in. Frequency of flooding: None Frequency of ponding: None H2O capacity: High (~ 10.3 in.)

o-6 in.: Silty clay loam 6-11 in.: Silty clay loam 11-34 in.: Loam 34-60 in.: Clay loam

(Soil Survey Staff, 2010) (Web Soil Survey, 2010)





The Program

Soil Types and Water Tables

2 - HISTORIC DOWNTOWN CITY BLOCK

Ryell very fine sandy loam o to 2 percent slopes

Soil Order: Entisols Suborder: Fluvents Great Group: Ustifluvents Subgroup: Aridic Ustifluvents Family Particle Size: Coarse-Loamy over Sandy or Sandy-Skeletal Mineralogy: Mixed CEC Activity: Superactive Reaction: Calcareous Soil Temperature: Frigid

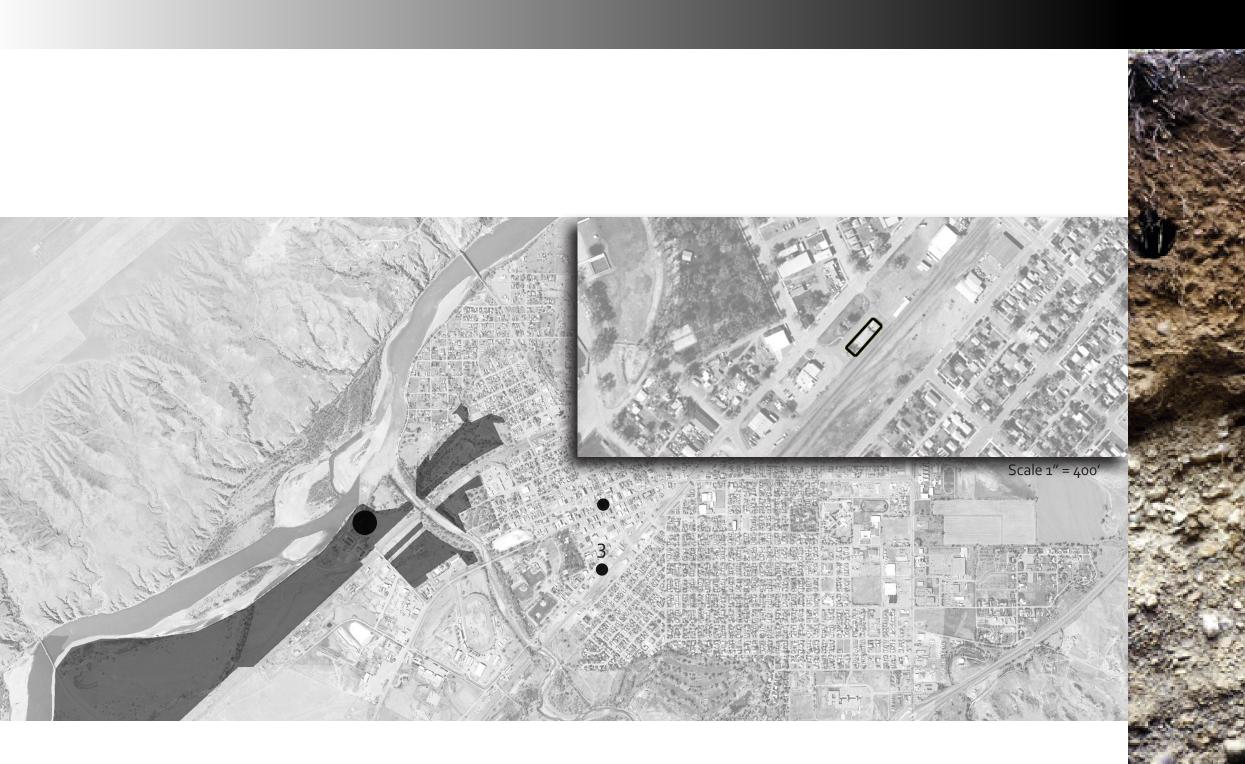
Elevation: 1,900 to 6,000 ft. Frost-free period: 110-135 days Landform: Flood plains Down-slope shape: Linear Across-slope shape: Linear Parent material: Sandy alluvium

Drainage class: Well drained Depth to water table: > 80 in. Frequency of flooding: Rare Frequency of ponding: None H2O capacity: Low (~5.6 in.)

o-6 in.: Very fine sandy loam 6-28 in.: Stratified very fine sandy loam to silt loam 28-60 in.: Very gravelly loamy sand

(Soil Survey Staff, 2010) (Web Soil Survey, 2010)





The Program

Soil Types and Water Tables

3 - HISTORIC RAILROAD DEPOT

Yamacall loam o to 2 percent slopes

Soil Order: Inceptisols Suborder: Ustepts Great Group: Haplustepts Subgroup: Aridic Haplustepts Family Particle Size: Fine-Loamy

Mineralogy: Mixed CEC Activity: Superactive Soil Temperature: Frigid

Elevation: 1,900 to 4,300 ft. Frost-free period: 110-135 days Landform: Plains, stream terraces Down-slope shape: Linear Across-slope shape: Linear Parent material: Loamy alluvium

Drainage class: Well drained Depth to water table: > 80 in. Frequency of flooding: None Frequency of ponding: None H2O capacity: High (~9.7 in.)

o-60 in.: Loam

(Soil Survey Staff, 2010) (Web Soil Survey, 2010)

SITE ANALYSIS

UTILITIES AND CIRCULATION

All sites are either connected to utilities or have immediate access to them.

The heavy vehicular paths either connect to highways that lead out of town or are city streets that run all the way to the other side of town.

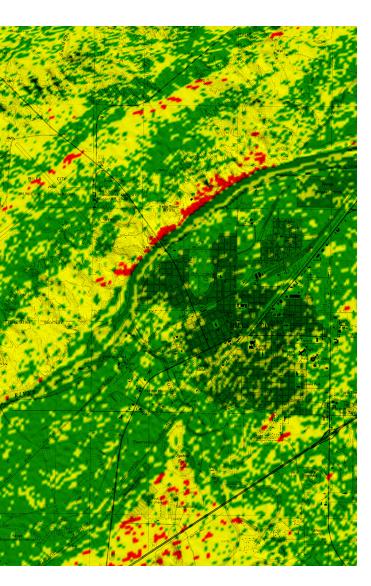
The light vehicular paths tend to be less frequented, but are shown because they link important areas around town.

Pedestrian traffic is limited to the heart of downtown Miles City. Citizens typically park their vehicles on Main Street and walk the few blocks to wherever they need to go.

Sites
Heavy Vehicular Traffic
Light Vehicular Traffic
Pedestrian Traffic

PRODUCTIVE REINTEGRATION

The Program



TOPOGRAPHIC ANALYSIS AND VISUAL FORM

All sites are located on relatively flat ground, so issues of drainage may need to be addressed. As for anticipated site functions, no foreseeable issues, other than the rare possibility of a flood, have been evidenced.

The whole town is sloped towards the river, and the dominating visual forms are the riverside bluffs, located on the north shore of the Yellowstone River, and the buttes/badlands south of town.

Slopes: < 5% Slopes: 5-25% Slopes: > 25%

SITE ANALYSIS



The Program

VEGETATION

1 - HISTORIC PUMPING PLANT Trees: Box elders and Cottonwoods Shrubs: Junipers and Sagebrush Groundcover: Native, unkempt grasses and manicured lawn

2 - HISTORIC DOWNTOWN CITY BLOCK Trees: N/A Shrubs: N/A Groundcover: N/A

3 - HISTORIC RAILROAD DEPOT Trees: Box elders and Cottonwoods Shrubs: N/A Groundcover: Native, unkempt grasses

SITE CHARACTERISTICS

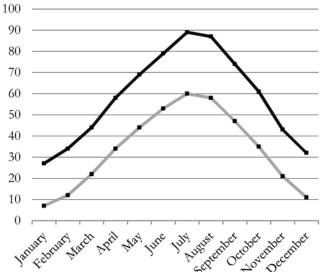
1 - HISTORIC PUMPING PLANT Quaint, secluded, repurposed, peaceful, established, protected, rusticated

2 - HISTORIC DOWNTOWN CITY BLOCK
Desolate, vast, fractured, devoid, sobering, disturbed, abandoned, morose

3 - HISTORIC RAILROAD DEPOT Nostalgic, decrepit, forgotten, isolated, hindered, uninviting, lost, somber

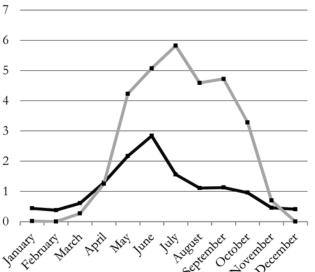
Site Analysis

Average Temperatures			
Month	High (°F)	Low (°F)	
January	27	7	
February	34	12	
March	44	22	
April	58	34	
May	69	44	
June	79	53	
July	89	60	
August	87	58	
September	74	47	
October	61	35	
November	43	21	
December	32	11	



(Western Regional Climate Center, 2010)

Precipitation (in.)		
Month	Total	Snowfall
January	0.44	0.02
February	0.38	0
March	0.61	0.27
April	1.29	1.25
May	2.17	4.23
June	2.84	5.07
July	1.56	5.82
August	1.11	4.59
September	1.13	4.72
October	0.96	3.28
November	0.46	0.7
December	0.41	0

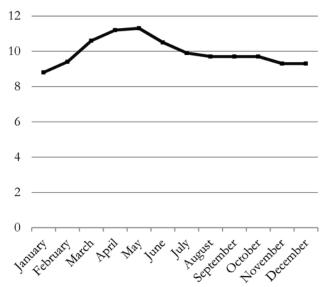


(Western Regional Climate Center, 2010)

PRODUCTIVE REINTEGRATION

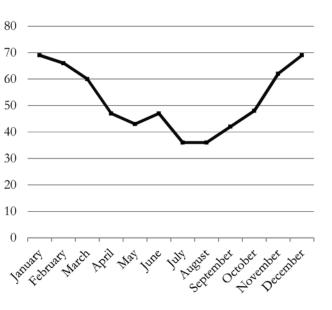
THE PROGRAM

Wind Speed			
Month	mph	Prevailing	
January	8.8	S	
February	9.4	S	
March	10.6	NW	
April	11.2	NW	
May	11.3	NW	
June	10.5	NW	
July	9.9	NW	
August	9.7	SSE	
September	9.7	NW	
October	9.7	S	
November	9.3	S	
December	9.3	S	



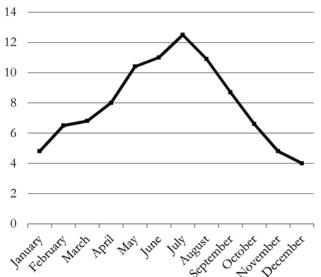
(Western Regional Climate Center, 2010)

Relative Humidity		
Month	Average %	
January	69	
February	66	
March	60	
April	47	
May	43	
June	47	
July	36	
August	36	
September	42	
October	48	
November	62	
December	69	



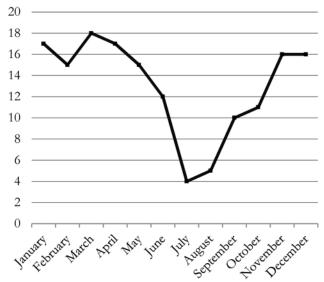
(Climatetemp, 2012)

	Sunshine
Month	Average hours/day
January	4.8
February	6.5
March	6.8
April	8
May	10.4
June	11
July	12.5
August	10.9
September	8.7
October	6.6
November	4.8
December	4



(Climatetemp, 2012)

Cloudy Days		
Month	Average Days	
January	17	
February	15	
March	18	
April	17	
May	15	
June	12	
July	4	
August	5	
September	10	
October	11	
November	16	
December	16	



(Western Regional Climate Center, 2010)

Mont Januar Februa Marc Apri May June July Augus Septem Octob Novem Decem

(Western Regional Climate Center, 2010)

PRODUCTIVE REINTEGRATION

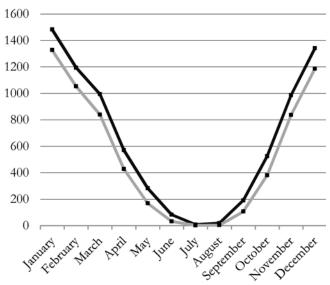
The Program

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Grov	3000		
th	50°F	50°F Σ	
ary	0	0	2500
ary	0	0	
ch	7	7	2000
il	66	74	
у	244	318	1500
e	479	796	1000
V	761	1557	1000
ıst	705	2262	500
nber	343	2605	
ber	90	2695	0
nber	4	2699	
nber	0	2699	225

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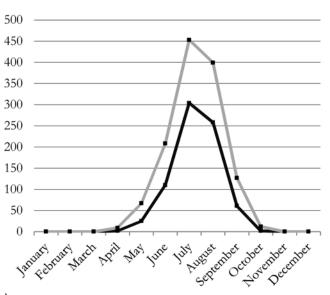
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Heating Degree Days			
Month	65°F Base	60°F Base	
January	1483	1328	
February	1194	1053	
March	994	839	
April	571	428	
May	283	169	
June	83	32	
July	8	2	
August	19	4	
September	191	107	
October	525	380	
November	987	837	
December	1342	1187	



(Western Regional Climate Center, 2010)

Cooling Degree Days		
Month	65°F Base	60°F Base
January	0	0
February	0	0
March	0	0
April	2	9
May	25	67
June	110	208
July	304	453
August	258	399
September	61	127
October	2	12
November	0	0
December	0	0



(Western Regional Climate Center, 2010)

PROGRAMMATIC REQUIREMENTS

1 - HISTORIC PUMPING PLANT

LIVING

Dwelling (8) - 200 sf Sitting (2) - 200 sf Kitchen (2) - 200 sf Dining (2) - 100 sf Exercise Room (1) - 750 sf Activity Room (1) - 750 sf Visiting Room (1) - 750 sf Lave (2) - 100 sf Restroom (2) - 200 sf Shower (1) - 150 sf Storage (2) - 100 sf M/E (2) - 100 sf Patio (2) - 300 sf Courtyard (1) - 1000 sf

Working

Greenhouses (2) - 2500 sf Hydroponics - (1) - 1000 sf Composting (1) - 1000 sf Utility (2) - 750 sf Prep Kitchen (1) - 750 sf Processing Kitchen (1) - 750 sf Canning Kitchen (1) - 750 sf Walk-In Cooler (1) - 1250 sf Freezer Storage (1) - 1750 sf Dry Storage (1) - 2000 sf Loading Dock (1) - 1750 sf Geothermal M/E (1) - 350 sf M/E (1) - 500 sf

LEARNING Classroom (1) - 400 sf Resource (1) - 1000 sf

Administrative GM Dwelling (1) - 2400 sf Office (1) - 250 sf Safe (1) - 250 sf Lobby (1) - 500 Restrooms (2) - 125 sf

Site Development

Machine Shop (1) - 4500 sf Cisterns (12) - 250 cf Rooftop Gardens - 5000 sf Other Greenhouses - varies Fields - varies Stockyards - varies Parking - varies

PRODUCTIVE REINTEGRATION

The Program

2 - HISTORIC DOWNTOWN CITY BLOCK

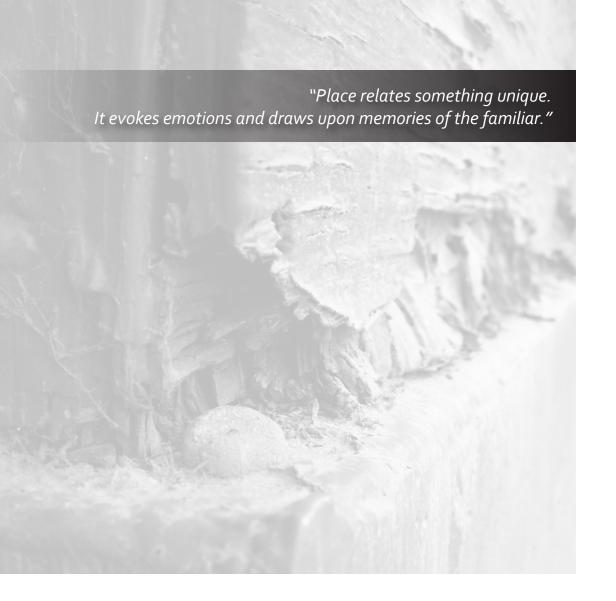
3 - HISTORIC RAILROAD DEPOT

THIS ASPECT OF THE PROJECT IS AUXILIARY TO THE HISTORIC PUMPING PLANT (THE MAIN FOCUS OF THE THESIS) AND ITS FEATURES INCLUDE:

Indoor Public Market Apartment-style Dwelling Units Offices Cafe

THIS ASPECT OF THE PROJECT IS AUXILIARY TO THE HISTORIC PUMPING PLANT (THE MAIN FOCUS OF THE THESIS) AND ITS FEATURES INCLUDE:

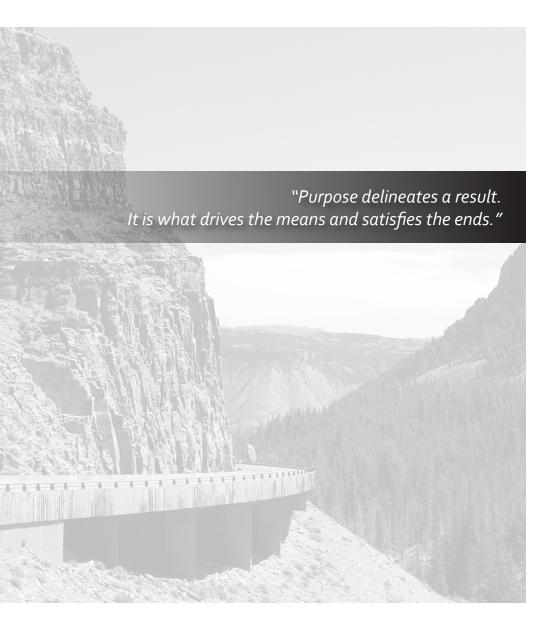
Outdoor Public Market Restaurant (adjacent building) Offices Classrooms Library



Place Purpose Ethos Space/Form Craft/Tectonic Ethics

PRODUCTIVE REINTEGRATION

DESIGN



Purpose

Ethos

Space/Form

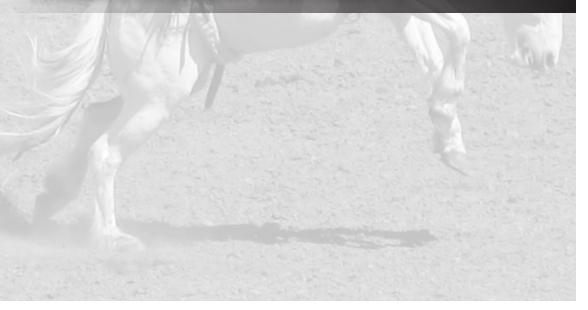
Craft/Tectonic

Ethics

Regenerative Design



"Ethos depicts a localized behavior. It motivates public perception and hints toward a prescribed response."



Place Purpose

Ethos

Space/Form Craft/Tectonic Ethics Regenerative Design

PRODUCTIVE REINTEGRATION

DESIGN



"Space/Form conveys a physical environment. It corresponds with a function and helps define our surroundings."



Place Purpose Ethos

Space/Form

Craft/Tectonic

Ethics

Regenerative Design



Place Purpose Ethos Space/Form Craft/Tectonic Ethics Regenerative Design

PRODUCTIVE REINTEGRATION

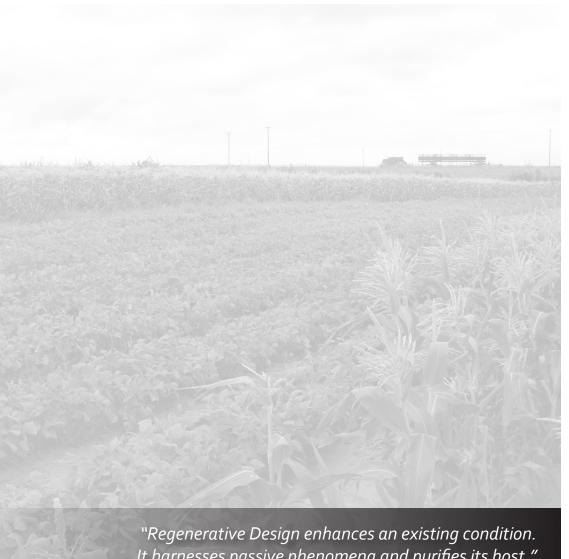
DESIGN



"Ethics addresses concepts of morality. It strives for equity and presents an opportunity for cooperation." Purpose Ethos Space/Form

Ethics

Regenerative Design



It harnesses passive phenomena and purifies its host."

lt mo

Regenerative Design

PRODUCTIVE REINTEGRATION

Place	"Place relates something unique. It evokes emotions and draws upon memories of the familiar."
Purpose	"Purpose delineates a result. It is what drives the means and satisfies the ends."
Ethos	"Ethos depicts a localized behavior. "ivates public perception and hints toward a prescribed response."
Space/Form	"Space/Form conveys a physical environment. t corresponds with a function and helps define our surroundings."
Craft/Tectonic	"Craft/Tectonic demonstrates a technique. It shows consideration and informs an intention."
Ethics	"Ethics addresses concepts of morality. It strives for equity and presents an opportunity for cooperation."
Regenerative Design	"Regenerative Design enhances an existing condition. It harnesses passive phenomena and purifies its host."

The scope of this project goes beyond the pumping plant and includes hundreds of acres of underutilized land adjacent to the site; to include more greenhouses and fields for expanded production. In town, auxiliary facilities will bring the produce directly into the community.





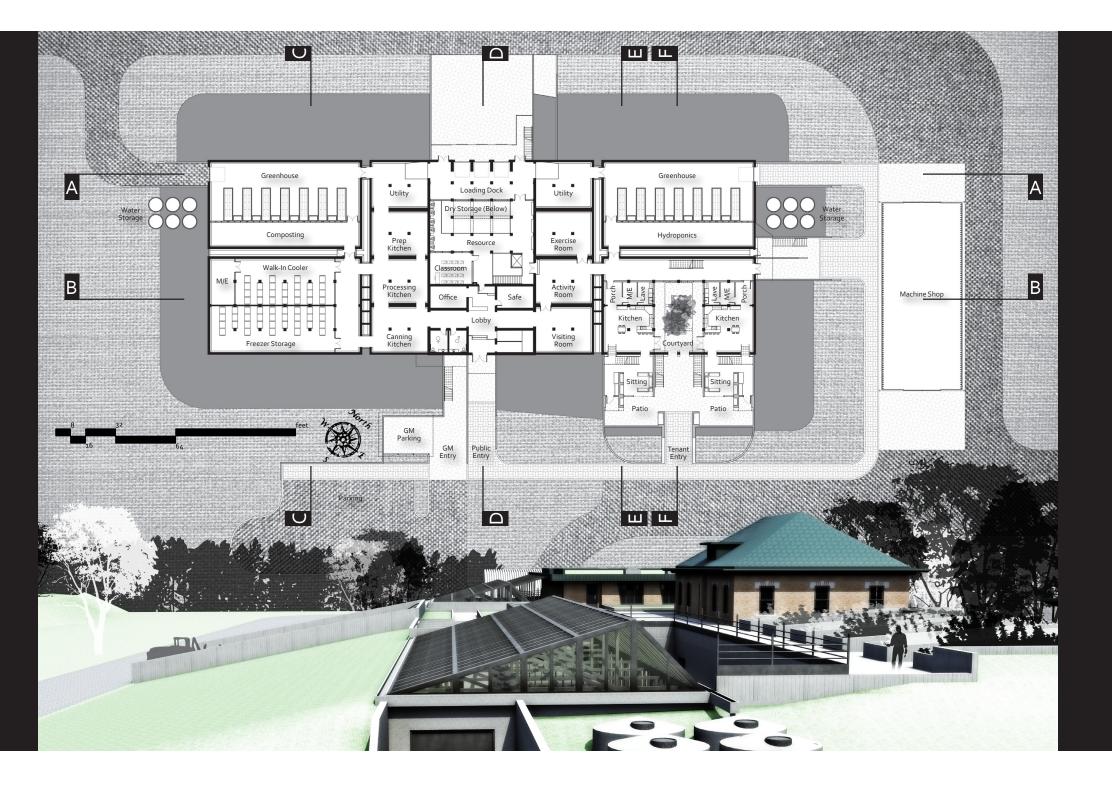


PRODUCTIVE Reintegration

An adaptive re-purposing of the historic Pumping Plant site along the outskirts of Miles City, Montana

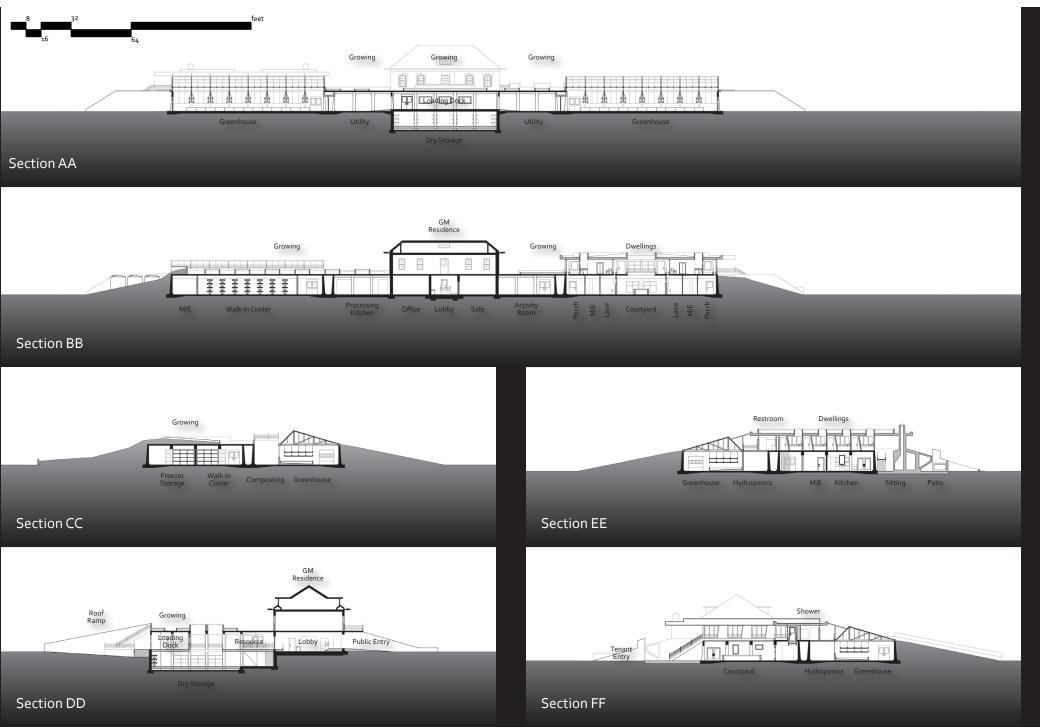
Brandon Janshen | Professor Darryl Booker | NDSU Architectural Master's Thesis -- Spring 2011 Google Sketchup Pro, Render[In], DataCAD X3, AutoCAD 2011, Adobe CS5 Design Standard

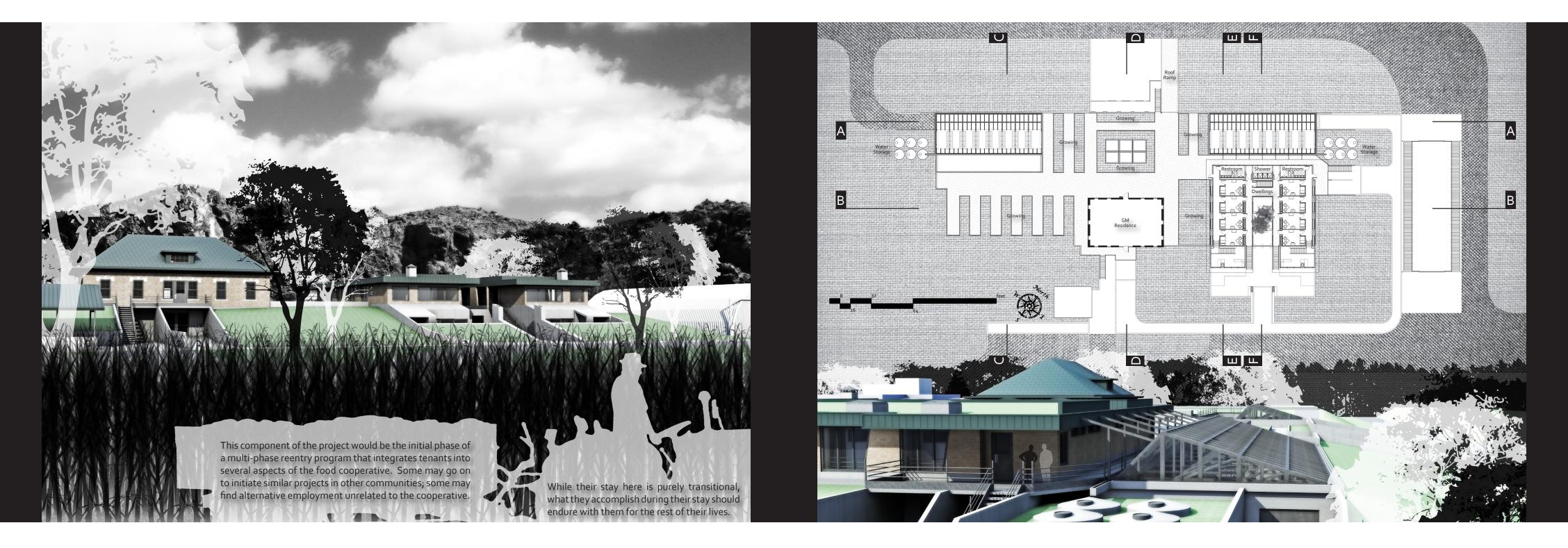
PRODUCTIVE REINTEGRATION

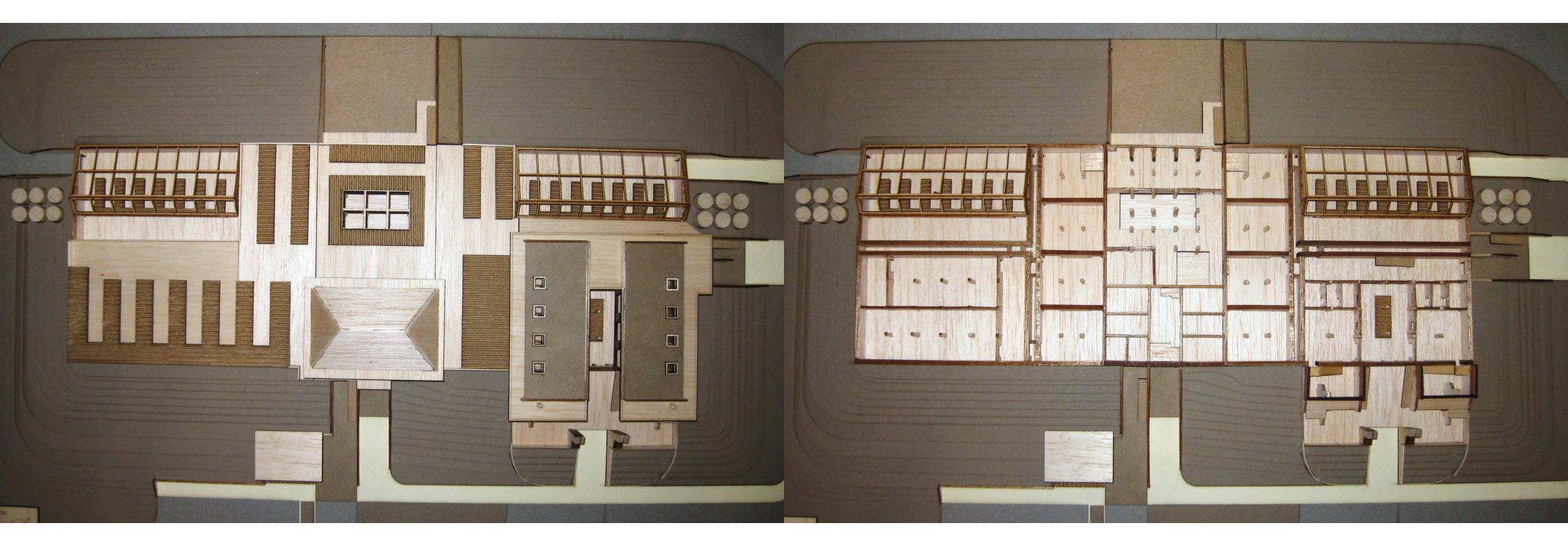


Once offenders have served their debt to society, they are typically released into a social climate that does not allow them to obtain gainful employment, an education, or other means necessary to endure a productive lifestyle outside of prison.

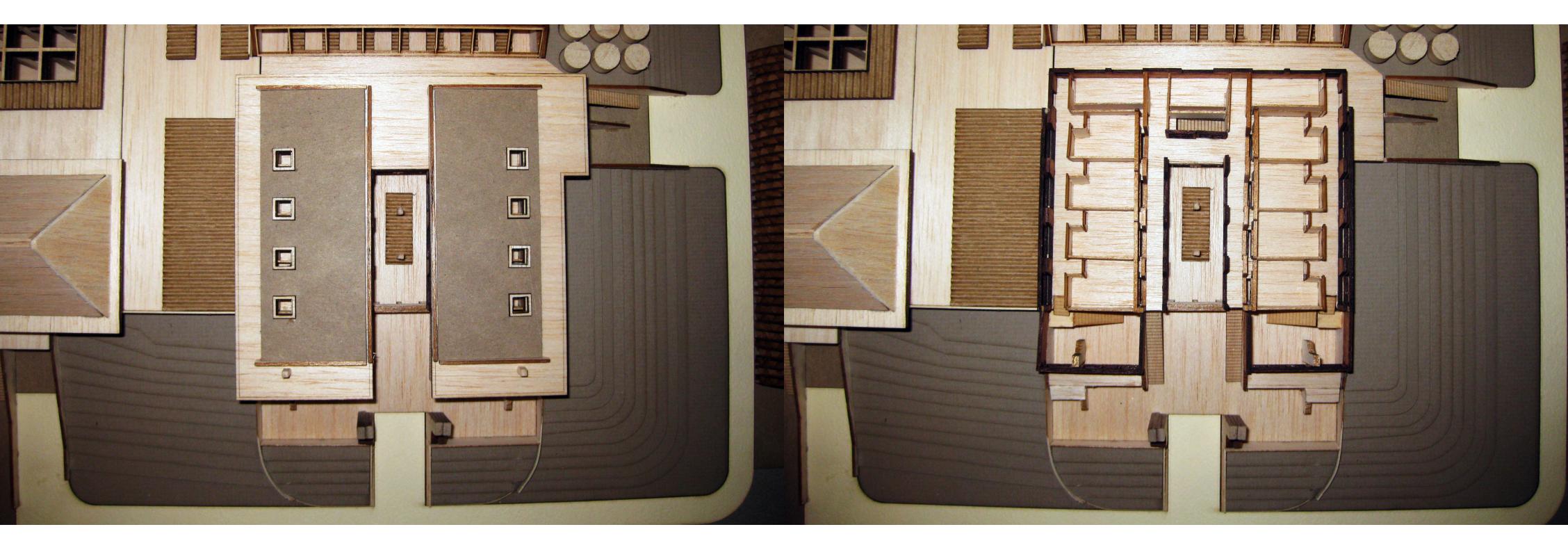
The community food cooperative becomes a social interface for these individuals to learn valuable life skills that not only provide the surrounding community with a much needed service, but also with a newly integrated and contributing member.



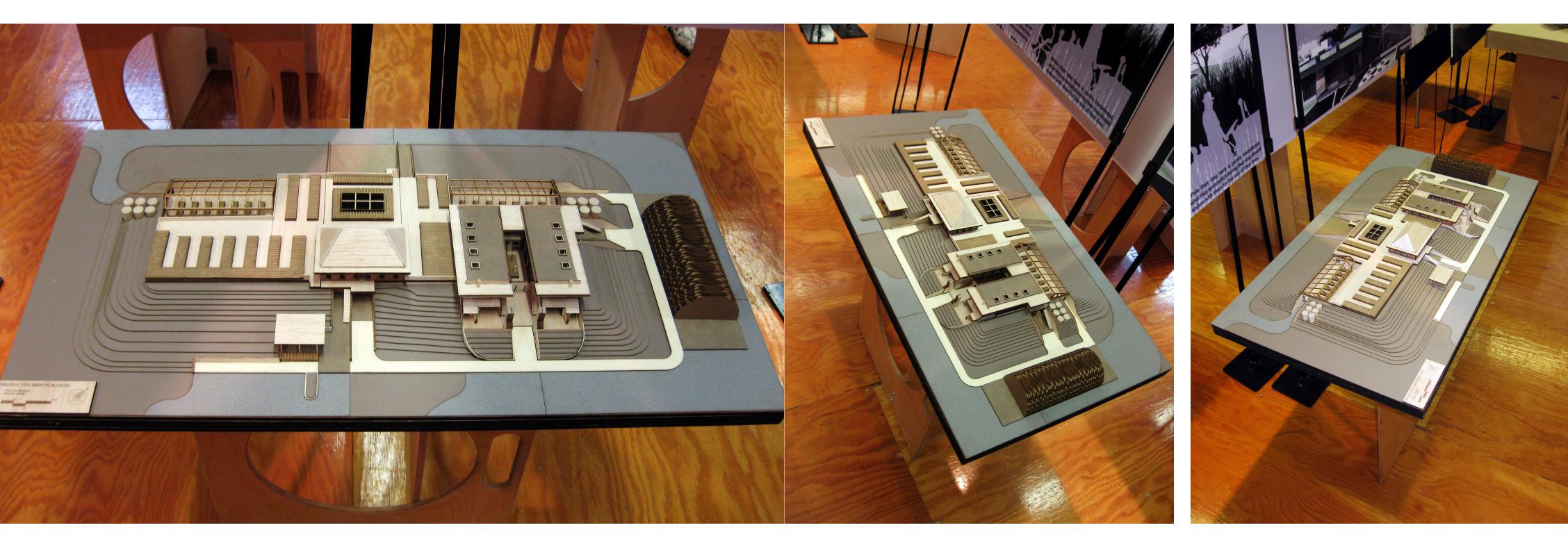




DESIGN



DESIGN



DESIGN

PRODUCTIVE REINTEGRATION

An adaptive re-purposing of the historic Pumping Plant site along the outskirts of Miles City, Montana



How can design influence the communities' reacceptance of its ostracized members? How can design enhance an individual's self-worth?

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Studio Experience

4TH YEAR STUDIO

FALL 2009 **PROFESSOR DARRYL BOOKER**

High-rise Design | San Francisco, CA KKE Competition - Musical Instrument

SPRING 2010 PROFESSORS DARRYL BOOKER, PAUL GLEYE, & FRANK KRATKY

> Informal Settlements | Santo Domingo, DR Marvin Window Competition | Kigoma, TZ

<u>5th Year Studio</u>

FALL 2010 PROFESSOR CINDY URNESS

Agricultural Complex | MN Experimental City

SPRING 2011 **MASTER THESIS PROFESSOR DARRYL BOOKER**

Productive Reintegration | Miles City, MT

2ND YEAR STUDIO

FALL 2007 **PROFESSOR MIKE CHRISTENSON**

Tea House | Fargo, ND Boat House | Minneapolis, MN Mixed-use Development | Fargo, ND

SPRING 2008 **PROFESSORS MIKE CHRISTENSON & MALINI SRIVASTAVA**

Mixed-use Community Development | Fargo, ND

3RD YEAR STUDIO

FALL 2008 **PROFESSOR STEVE MARTENS**

Wildlife Interpretive Center | Siren, WI Mason's Guild | Grey Eagle, MN

> SPRING 2009 **PROFESSOR DAVID CRUTCHFIELD**

Performing Arts Center | Austin, TX Hotel Virgin Galactic | Upham, NM Art Gallery Charrette | Chicago, IL

PERSONAL IDENTIFICATION

