

# **SYSTEMS FOR SOCIAL CHANGE**

APPLYING THE DIGNITY  
OF CHOICE TO THE  
MARKETS OF HOUSING

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# SYSTEMS FOR SOCIAL CHANGE

A Design Thesis Submitted to the Department of Architecture  
and Landscape Architecture of North Dakota State University  
by Andrew Foster Jacot

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



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MAY 11, 2011

Date



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05/14/11

Date

May 2011 — Fargo, North Dakota



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“...houses are the great paramour for architects, from the most successful all the way down to the most struggling. We draw them on the backs of napkins. But too often when I look at what builders and developers are doing, we’re not talking about architecture any longer. We’re talking about capitalism at its most obscene. The public has bought into the mediocrity and insipid attitude of manufactured and spec houses, and has given up any hope of creating homes with spirit.”

—Samuel Mockbee  
(quoted in Libby, 2001)







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# ABSTRACT

Through the design of low-income housing in Fargo, North Dakota, this thesis will reevaluate the relationship between market forces and architecture, seeking to develop a new system for housing the low-income sector and creating an architecture that is reflective of that system. This new approach will reflect a patient capitalistic sense of development, one which employs market-driven listening tools in an aid sector.

Keywords:

system

low income

housing

cooperative

modular

patient capitalism

market



# PROBLEM STATEMENT

What is the relationship between architecture and social change?







**statement of intent**

# STATEMENT OF INTENT

## TYPOLOGY

low income housing

or

housing with the potential to be appropriate for a low income individual

## CLAIM

Architecture can allow for social change through systems.

Actor: architecture

Action: allows

Object: social change

Manner: through systems

Creating buildings requires a relatively large financial backing and this relationship to money requires constant decisions of importance as an architectural design is created. In this way, acts of architecture signify a judgement of value and reflect social beliefs.

Architecture has been portrayed as an initiator of moods or activity. This viewpoint identifies architecture as being capable of generating a specific response via the arrangement of architectural elements. This thesis identifies architecture as a tool, something which must be acted upon by a user.

Architecture has been historically linked to the social sciences and it is this relationship that has spurred socially-conscious design. Architects seek to improve social situations through

Systems impact the way architecture is created and the forms it takes. One might look to the building codes for evidence of the effect of rules on the form of the built environment. Through Similarly, the organizational structure of housing



subsidized by private organizations and the government contain influences of this system. By readdressing our current organizational and financial system of housing those in low income situations we are forced to readdress the architecture of low income housing.

#### THEORETICAL PREMISE

Just as code regulations create limitations and suggest form to architecture, the governmental system of low-income housing affects its architectural form. If a new system is considered, it will allow the designer different architectural possibilities within the housing type.

#### PROJECT JUSTIFICATION

Architects have been designing low income housing from the inception of the typology, but this housing has remained unchanged as ways of living have continued to progress. This project will serve as an arena to look at the possibilities of new ideas on systems of housing and their architectural effects from an academic vantage point.

Exploration into new systems will allow architects to analyze the impacts of current systems and the positive affect of a shift in thinking about housing low income individuals.





# proposal

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# NARRATIVE

A thesis is supposedly a culmination of one's time spent within a university. While I question the ability of this project to terminate or fully express a period of education, my time in the university has been marked by transience between four homelands and little of the last year has been spent in Fargo. To that end, this thesis does not begin with a deep theoretical questioning, but with places and the personal learning they represent.

Last summer and the three before it have been spent in the mountains of Tennessee, Kentucky, Virginia and West Virginia while working for Appalachia Service Project (ASP). This summer I return this area to direct one of the organization's summer centers instead of pursuing a traditional architecture position. The region ASP serves is home to a concentrated portion of America's low income individuals, with 26% of the population—double the national average—living below the poverty line (Appalachia Service Project, 2009). Based out of Johnson City, Tennessee, this organization seeks to promote exchange between youth and the low income individuals of rural central Appalachia through the medium of emergency home repair. This intensive experience has given me insight into the situations of housing within some of the most impoverished communities in the nation. Working and living in this environment has left me with a distinct resolve; to quote ASP's Statement of Values directly, "affordable, safe, sanitary housing is a basic human right," (Appalachia Service Project, 2009).

Addressing the housing needs of rural Appalachia seems a natural thesis topic, but the region is troubled by feasibility. It's topography will forever inhibit the transportation of people and goods, rendering the area of little interest to manufacturers or industry. Ever increasing technology has and will continue to require fewer man hours to extract what is left of the region's natural resources. Technology and education have historically been underfunded and low

priorities for those with the power to make decisions. A small tax base continues to impede educational institutions and the infrastructure necessary to create a thriving business community. Increasing the population density around centers of industry, the natural architectural solution, would destroy the culture of this sensitive place. Architecture, while an integral part of any comprehensive solution, cannot create cyclical change or serve as an economic solution without the implementation of a successful business plan. I welcome the business student capable of this task.

Last spring was spent based in Jaipur, India, and traveling throughout the Indian subcontinent. With remnants of the

Fig 2.1: A home near Mountain City, TN before ASP volunteers and staff began repairs.



caste system, the stratification in India is distinctly visible and its impression is compounded by the density of India's urban spaces. Within a single Indian train every income bracket is represented, each riding in various cars and conditions. The same is true for their cities; while socio-economic districts are surely present, people of all classes must dwell closer to one another in the density necessary to house India's large population.

An estimated one million people live within the Dharavi Slum in Mumbai (Jacobson, 2007). While the housing is visually chaotic, the communities have some level of economic organization, with dwellings and commercial functions occurring in the same zone. The high density has allowed individuals to pursue an income because of the access to raw materials, goods and services without the need for expensive transportation. This access is further improved by India's lack of regulations for small businesses or enforcement of its regulations. Business can be established with as little as a cloth to elevate a seller's goods above the dirt of the street. This mobility allows for small businesses, neighborhoods and individuals a higher level of access to prosperity.

These two examples of low income housing point out the contrasts of systems. Urban environments are a host to feasibility. City centers develop around commerce at the intersection of raw material, its manipulation, product, and transport. Through a city's cycle of gentrification and collapse, real estate is provided at a variety of price ranges. The physical closeness of goods and services allow easy access to opportunities within the community. The slum developments of India are viable and thriving communities because of this density. Expanses of open space within rural areas prevent members of those communities from seeking a source of income because of a lack of public transportation and the financial infeasibility of personal transportation. There is no question why new immigrants in the United States naturally gravitate toward these urban environments; the benefits of proximity cannot be denied.

The physical form of the architectures I have experienced are different because of a host of conditions: environmental factors, material availability, design traditions and client needs. They also differ because of the social systems that have shaped their existence. These systems took part in their creation, molding them into a form that fit the values and policies of need. As Cameron Sinclair, the face of Architecture for Humanity, has asserted, "Ethics is aesthetics"

(Sinclair, 2009).

Downtown revitalization across the United States has allowed the housing of urban spaces to be readdressed after a period of disinterest in urban living. While the upper income bracket has seen an influx of new buildings, the low income bracket remains stagnant, relying on old design ideas. As the idea of architect as humanitarian and agent of social change is repopularized, it is time to once again look at the issue of low income housing and its role in society.

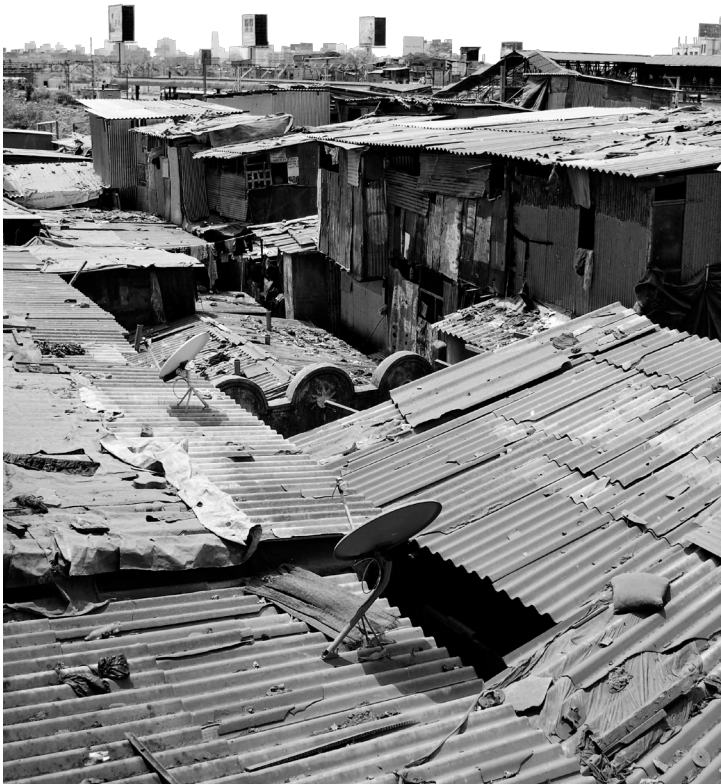


Fig. 2.2: The Dharavi Slum in Mumbai, India.

# MAJOR PROJECT ELEMENTS

Since the beginning of human existence humans have sought out shelter that responds to the essential functions of human living. On a primordial level, this thesis seeks to holistically fulfill those functions with a sense of intentionality and create spaces of dwelling. Simon Unwin describes a series of primitive place types in *Analysing Architecture* (2003). Of these, the hearth, bed and fort relate to the purpose of housing.

On a more practical level the project will require the following spaces:

## HOUSING UNITS

Apartment units in a variety of sizes will accommodate a wide range of individuals and family situations.

## COMMUNITY SPACE

Shared spaces for residents will allow for large group gatherings, larger events and a sense of gathering.

## RETAIL

Lower level retail space will keep with the pattern of the site's surroundings and provide an opportunity for work programs or renters to help the development financially.

## PUBLIC SPACE

Welcoming outdoor space will help integrate the development with the existing community.

## OFFICES/SERVICES

Will be used by the Fargo Housing Authority and organizations with complementary missions.

# USER/CLIENT DESCRIPTION

Various parts of the architecture resulting from this thesis will be owned by different entities to exemplify the market-based strategies explained later in this document. The Fargo Housing Authority will own the armature, while individual units will be owned by the renters. The facility will be run by the Fargo Housing Cooperative.

Given the mixed quality of the program, this building will have three general user groups. The housing elements of the design will be used by residents and employees who work for the Fargo Housing Authority and its partner organizations. The mixed-use development of retail space and public space will be used by a third group of people, the general public of the downtown area.

## EMPLOYEES

Ten employees of the Fargo Housing Authority will work within the building as administrative staff, building maintenance and through complementary organizations or services.

## RESIDENTS

Twenty residential units of housing of various sizes will meet the needs of different family sizes. Low income individuals are more frequently of a racial minority, have a greater incidence of substance abuse and are more likely to have physical and mental health issues. It is important that the design treat this frequently stigmatized group with dignity.

## GENERAL PUBLIC

Retail and public space will bring the general public into this facility. Quantities for this user group will not be easily predicted, but general assumptions can be made as to their needs.



# SITE INFORMATION

## REGION

Fargo, North Dakota lies in the northern portion of the Midwest in the United States. The city is situated on the eastern border of the state with Minnesota. This portion of the country is known for its plains, agriculture and low population density.

## CITY

Fargo sits at the juncture of interstates 94 and 29. To the east it is bordered by the Red River, which also separates North Dakota from Minnesota. This body of water and the freeway systems form barriers within the city, isolating distinct areas. The railways that once brought goods and passengers to the city now further stratify the urban space. The monotonous topography of the Red River Valley has allowed for a rigorous implementation of the Jeffersonian grid in the planning of the city. While Bismarck is the state capital, Fargo claims the highest population of the state. Within the city of Fargo, the site is located in the downtown district.

Fig. 2.3: The Continent of North America with the Great Plains Region and state lines identified in relation to Fargo, ND. Background: the plains along interstate 94 in western Minnesota.





Great Plains Region



Fig 2.4: (above) A map showing the city outline of Fargo and major roads. Background: the train tracks that run parallel to Main Avenue in the city.

Fig 2.5: (opposite) A figure ground showing Fargo's downtown district. Background: A view east along 1st Avenue in downtown Fargo.







## SITE

Broadway, the street which borders the site to the east, is the heart of the downtown district. To the south of the site is NP Avenue and a pair of railroad tracks. The site is located in close proximity to the employers, retail, bus routes and offices needed to make this project a success. This part of town is also economically diverse, ranging from high end condos to other Fargo Housing Authority properties all within several blocks.

Despite recent revitalization efforts, the area is not without its urban flaws. The district is still a loose assortment of buildings, in need of additional density and its accompanying activity. The selected site will play a vital role in the downtown area because of its location on one of Fargo's premier streets. Despite its proximity to the river, the downtown area shows no urban relationship with the body of water because of its annual flooding.

Fig 2.6: A figure ground of the site. Background: The building to the north side of the site.

# PROJECT EMPHASIS

The architecture of low income housing in the United States is marked by the organizational systems that produce it. While other housing types show the character of their owners or developers, the complete financial backing and ownership of low income housing by government agencies requires little input from the users on the design. This thesis must first propose a new financial and organizational structure that will allow for user needs to be more adequately addressed, instill a sense of ownership and community amongst the residents and create a voice for users through market-based listening devices. Designing an architecture in response to this system will be the secondary task of the project. The tertiary goal will be to implement the system into the chosen site and a complete building scheme.

# PLAN FOR PROCEEDING

## RESEARCH DIRECTION

This thesis will continue through research of the necessary data to understand the overarching theoretical premise and the resulting architecture. This research will include site analysis, historical context, project typology, theoretical premise and programmatic requirements. The research will aid in the design process by providing the necessary information to make informed design decisions and will serve as a source of goals and inspiration for the project.

## DESIGN METHODOLOGY

This thesis will be approached through a mixed-method quantitative/qualitative approach through the simultaneous collection of these two types of information. Case studies, graphic analysis, digital analysis and interviews with individuals or groups will be used to gather the necessary information.

Quantitative data will take the form of statistical data or scientific data. Either of these types of data may be gathered and analyzed specifically for this thesis or found through archival sources.

Qualitative data will be gathered through direct observation, local survey of residents or entities involved in the design, search of archival information or from direct interviews.

The architectural design of the project will take place through the means of sketching in a variety of scales and mediums, physical modeling, architectural studies and digital modeling. This design process will take place under the influence of regular group and individual critiques with peers and professors in planned and informal settings. A formal midterm presentation will allow further input from outside critics.

## PROCESS DOCUMENTATION

Documentation of the design process will be conducted using a variety of digital and physical media depending on the desired result and the qualities of the media. Before the midterm review and the conclusion of the thesis process the prominent portions of the process will be digitized in order to be compiled into the process portion of this document and included in the final presentation. Additional information, including the final thesis document, will be available through the digital commons of the NDSU Library.



# PREVIOUS STUDIO EXPERIENCE

## SECOND YEAR

FALL 2007 WITH DARRYL BOOKER

Tea House—Fargo, ND

Minneapolis Rowing Club—Minneapolis MN

Biodwelling—Rocky Mountain National Park, CO

SPRING 2008 WITH STEPHEN WISCHER

Emily Dickinson Museum—Fargo ND

Schafer-Gordon Music House—Fargo, ND

## THIRD YEAR

FALL 2008 WITH RON RAMSAY

Opera House Addition—Agincourt, IA

Moorhead Library—Moorhead, MN

SPRING 2009 WITH DAVID CRUTCHFIELD

Austin Performing Arts Center—Austin, TX

Desert Retreat Hotel—near Las Cruces, NM

Chicago Art Pavilion—Chicago, IL

## FOURTH YEAR

FALL 2009 WITH DON FAULKNER

Highrise at 525 Howard—San Francisco, CA

KKE Musical Instrument Design Competition

SPRING 2010 WITH MIKE CHRISTENSON AND DAVID  
CRUTCHFIELD

Toilet Block —Jaipur, India

Urban Traffic Interventions—Jaipur, India

## FIFTH YEAR

FALL 2010 WITH GANAPATHY MAHALINGAM

Research of Cognitive Mapping —Fargo, ND





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# THEORETICAL RESEARCH

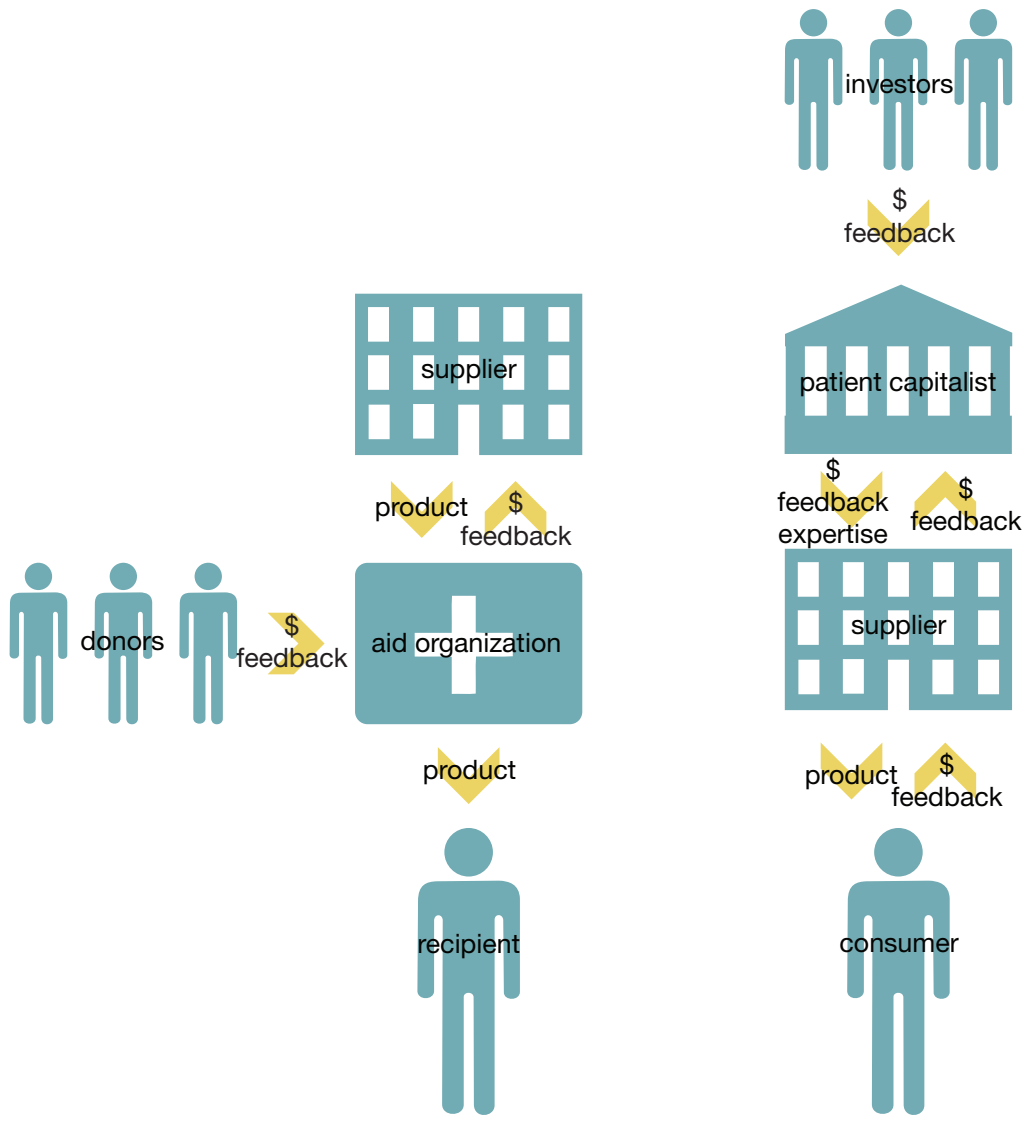
America's idea of success is rooted in capitalism and the American dream; A problematic issue arises when these elements of American culture function against one another. Architecture entangles itself in this altercation because of our assumption that home ownership equates success. This has caused a relationship to form between architecture and social issues as attempts are made to dole out the symbol of the American dream: housing. What if the markets of capitalism were used to influence architecture that would allow for more people to experience success? If we accept the role of architect as capable of committing a social act, as has been established by the profession and the surrounding culture, we must ask how we approach the system that creates an architecture of social change.



## THE SOCIAL AND ITS RELATIONSHIP WITH ARCHITECTURE

An understanding of architecture and the distinct category of social design within the profession requires an understanding of the term “social” in society. In the most basic sense, the term “social” was popularized during a period of liberal politics in the nineteenth century after the advent of Locke and Rousseau’s ideas on social contract (Rabinow, 1989). While the idea of social issues applies to all realms of people and therefore all architectures, the term has come to be associated with class issues, specifically social housing, social welfare, social policy, and the liberal agenda that initially popularized the term. David Vanderburgh and Russel Ellis establish that over the course of time, “‘social’ referred to a domain consisting of errors to be corrected, instability to be rendered manageable and social actors to be mollified, within the realm of architecture” (Vaderburgh, n.d.).





Architecture has sought to address the needs of society and has responded to this interest by suggesting that architecture can be both a response to and active voice within the dialogue with social issues. Through the manipulation of built environment and analysis of the social impacts of architecture, architects have sought to impact social issues prevalent in the zeitgeist.

Social architecture is relatively young in terms of architectural history. The profession first sought to address permanent social housing after World War I with the Home for Heroes campaign, an effort to create housing for returning troops by politician Lloyd George in Britain. With additional need and funding following World War II, the movement for social housing gained momentum (French, 2002). Prominent architects continued to work in this typology during the middle of the century, addressing the need for improved conditions, the demise of the public servant, changing role of the housewife and industrial mass production techniques (French, 2002).

This pursuit of social change has been further legitimized and accepted by the profession through research and responses from within the field, including social and cultural factors

(SCF). SCF is a rubric of social, cultural and political factors under which the which various entities related to the practice and education of architecture analyze the affect of these cultural forces on architecture.

Despite the changing landscape of culture and level of participation in SCF, this subfield of architecture has remained fairly stagnant since its inception in the 1970s (Vanderburgh, n.d.). Early approaches to SCF assumed that the architecture could directly affect the desired response from inhabitants, but this was not verified by SCF results. As the studies in this subset of architecture declined, the opposite stance was taken in regard to architecture as social actor. A critic of the time stated that, “a thorough reformation of architecture must begin with a thorough reformation of society” (Kurtz). Architectural historian Stephan Mathesius relays the disinterest in social architecture by saying,

“from the early 1970s, modern public housing seemed to have lost its validity...in place of the broad consensus of the 1940s, there was now a total unbridgeable schism. On the one side the great intentions of designers and producers, driven by a messianic enthusiasm to ‘clear the slums;’ on the other a crescendo of complaints by critics and tenants”

Architecture's relationship with social issues is once again on the rise. Design publications are once again featuring the topic and organization such as Architecture for Humanity are on the rise. This group seen an increase in participants from 3,000 in 2004 to more than 7,000 in 2008 (Architecture for Humanity, 2010). Though the relationship has not always been strong, architecture does have a historical and current relationship with social issues.

## HOUSING AS COMMODITY

The typical of relationship of landlord and tenant or government and aide recipient trivialize the system of low income housing, portraying it as commodity (Gausa, 1998). George Ritzer describes it a relationship of consumption because of four basic standards: efficacy, cost-effectiveness, predictability and control. Accepting this view of architecture allows a view of architecture function as a product with the typical market-based ramifications of supply and demand.

Microfinancing banks have a history of pursuing altruistic goals through what is known as patient capitalism, a type aide which thrives on market forces. The strategy identifies

low income markets as possibilities for capitalistic pursuits and realizes that the market would generate profit over a very extended period of time. In this model a group of investors places money in the hands of a patient capitalist, who invests the money in an entrepreneur with altruistic goals and supports the individual through business expertise. The entrepreneur supplies low income people with a necessary product or service at a price they can afford. This type of aid functions sustainably because there is less of a need for ongoing support from donors. Further more, the recipient of the aid is now empowered to make decisions about the outcome of the product through market forces. If they do not see value in the product, it will not be purchased and will have to adapt to meet their needs.

The Acumen Fund is at the forefront of this type of capitalistic pursuit with one of it's longest ongoing projects for water in India. The government policy at the national and state levels was advocating a policy of free water for all citizens, yet few had access to clean water. The Acumen Fund invested \$600,000 in new technology for UV filtration and provided clean water for rural communities and now serves 400,000 customers at prices they can afford. Five and half years after the initial investment, the state government has contracted



with the original company to build 300 more plants for water filtration to support rural communities and the consumer base will grow beyond one million.

## AN IDEAL COMMODITY

This observation allows for a different type of aide to serve as the model for low income housing. If the recipients of subsidized housing are viewed as consumers and treated as such, the ability to meet the needs of the inhabitant is increased. This way of thinking relies on market forces to dictate the response and the typical role of consumer as capable of rejecting a good or service on the basis of its ineptitude. If social architecture must earn it's clients from a sea of competitors through innovation as any manufacturer of a product does, it increases the likelihood that the consumer will be pleased by the result. Through a role as a consumer and not a recipient, people who inhabit low income housing would be able to voice their opinions and be critical of the system or product in which they take part, promoting the change that is needed in the typology.

Through the ongoing endeavors of the profession and academia toward information about and perfection of Social Cultural Factors, the profession has accepted the role of agent of social change. Architecture can effectively rely on market-based approaches to aid to create the change that is desired. A commodity-driven approach, such as the one modeled by micorfinancing organizations, allows the negativity of trivialized housing to become an asset through a better consumer-product relationship.



# THEORETICAL RESEARCH SUMMARY



Architecture has established a tradition of addressing social issues.



Architecture seeks to create a positive social impact through a change in the status quo.



Market and economic forces have the ability to spur change.







# CASE STUDY: UNITÉ D'HABITATION

PROJECT TYPE: LARGE SCALE MODERNIST HOUSING

ARCHITECT: LE CORBUSIER

LOCATION: MARSEILLE, FRANCE

PROGRAMMATIC ELEMENTS: 337 HOUSING UNITS, RETAIL,  
KINDERGARTEN, HOTEL, COMMUNITY FUNCTIONS

COMPLETED: 1952



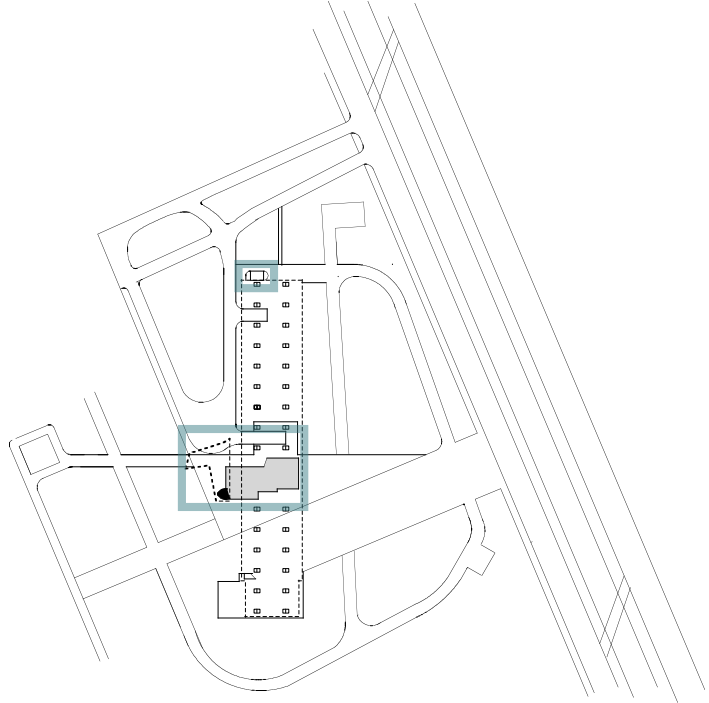
Following the end of the second world war, Europe was in need of a large amount of housing and had the land to pursue it because of destruction during the combat. The socio-political climate was right for a shift in design mentality and European Modernists seized this opportunity with new housing. These large scale developments challenged the status quo of urban design and living space, innovating new planning techniques.

The project Unité d'Habitation in Marseille, France, is an example of this post war housing, endeavoring to be a vertical city, containing programmatic elements beyond pure housing and addressing multiple aspects of human dwelling. A solarium, pool, open air theater, kindergarten, exercise space and running track are located on the rooftop (Jenkins, 1993). Within the mass of the building, a small hotel provides space for visiting guests and residents have access to shopping, a sick bay, dispensary and a bar (French, 2008).

Despite being in a more urban section of Marseille, the building is detached from surrounding buildings by a park-like landscape. The space is accessed from the ground in only two locations: the main entrance near the center of the building and a subsidiary exit stair on the north side of the building. This type of planning is also very different from the small scale development that surrounds the site. While the attempt was to create a vertical city, the building cannot possibly provide for every necessity of its residents, leaving them without direct access to the surrounding community for alternatives.

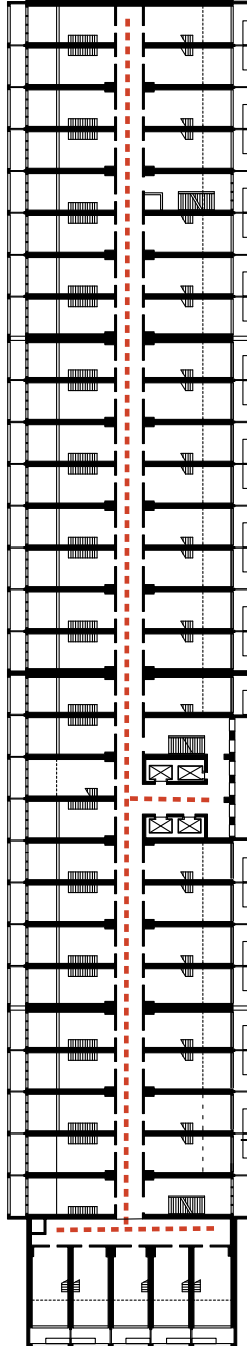
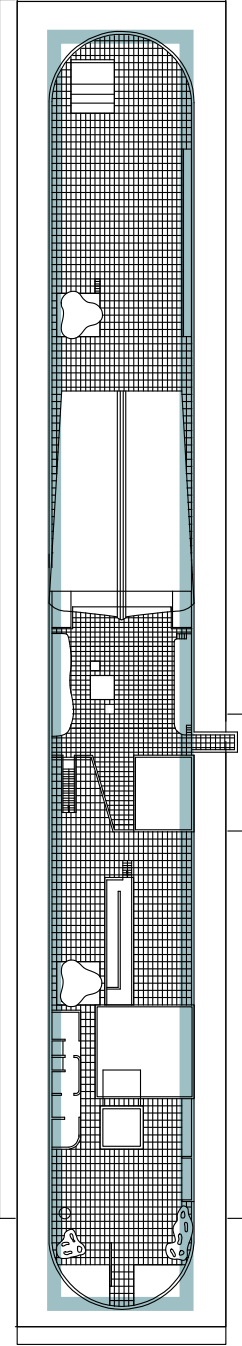
Space is conserved within the building by innovative planning techniques. Rather than being rectangular like the majority of multifamily dwellings, apartments at the Unité d'Habitation are L-shaped in section. This shape allows a single double-loaded corridor to service three floors of the building. With units spanning from exterior edge to exterior edge of the design, apartments enjoy cross ventilation and solar access during both the mornings and evenings. The disadvantage of this section is that it creates long, narrow apartment units that could be difficult to utilize for living spaces.

The individual units show the shift in culture of the post-war society. The kitchen becomes a central component of the design and is open to other spaces for the servantless family. Bedrooms have very limited space, allowing the family to gather in the shared living spaces.



In typical Corbusier fashion, the building shows some of the elements of his five points of a new architecture. The building is elevated above the ground with piloti, allowing movement beneath the building while creating privacy and views for the building's inhabitants. The facade of the building registers each of the apartment units, rather than disguising them through a completely free facade. Within the concrete bearing walls of each unit there would be opportunity for a free plan, but this was not utilized in the construction of the building. Expanses of glass provide the daylighting that was a hallmark of this new architecture. A designed exterior roof space provides gathering spaces and amenities for the inhabitants.

The building's form is that of a monolith, as was common during the International movement. The building's facade is only broken from the repetition of balconies by the a delineation of the vertical circulation and a horizontal stripe of glazing that allows the mid-level shopping area to be visible from the exterior. The overall impression of this form is that of unified a whole, underlying socialist ideas of European Modernism. The expression portrays uniformity and unity of the whole, only allowing differentiation for the core functions

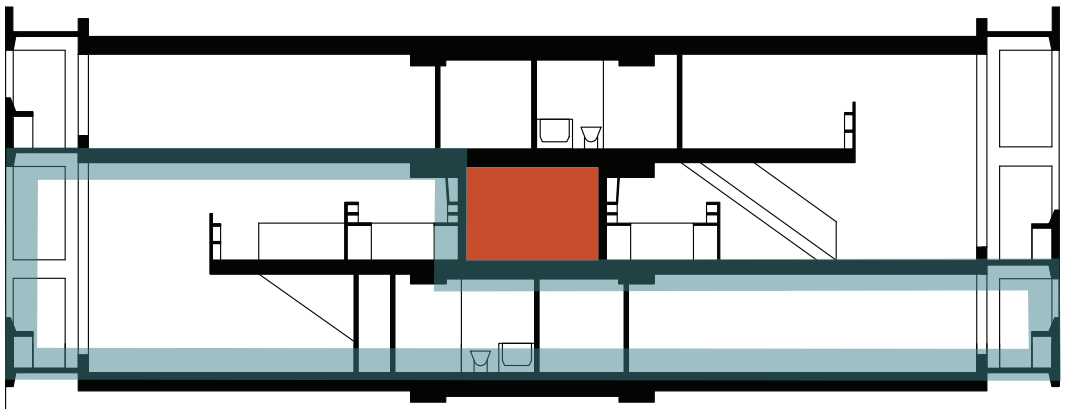


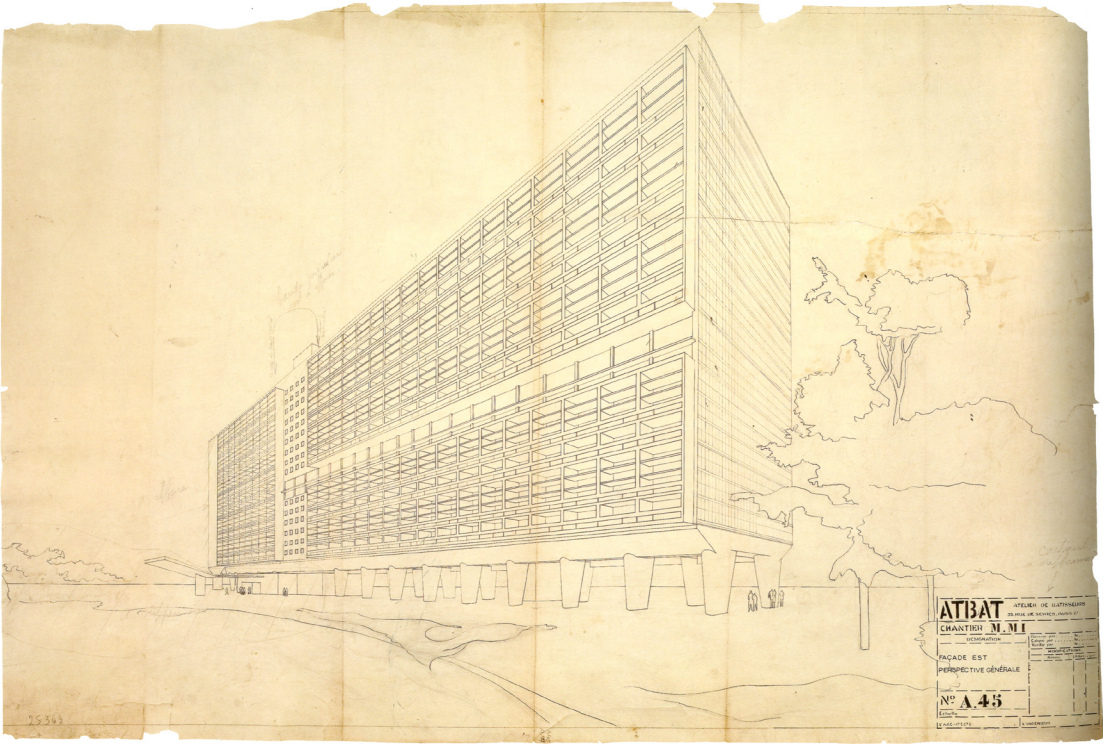


of the program.

The case study is most beneficial for its unique plan and section. Through the innovation of the L-shaped section, the building makes use economic use of space and material, while providing imaginative spaces for the building's inhabitants.

It also represents a shift in thinking about what housing should contain. The mixed use of the building's program shows an endeavor to provide for multiple facets of living. Spatial planning reflects the changes in culture during this period of time.







## CASE STUDY: 60 RICHMOND

PROJECT TYPE: HOUSING COOPERATIVE

ARCHITECT: TEEPLE ARCHITECTS

CLIENT: TORONTO COMMUNITY HOUSING  
CORPORATION

LOCATION: TORONTO, CANADA

PROGRAMMATIC ELEMENTS: RESIDENTIAL UNITS,  
TRAINING KITCHEN, PARKING, GARDENS,  
SUPPORT SPACES

COMPLETED: 2010

SIZE: 99,565 FT<sup>2</sup>



This case study is similar in its noble social attempts to the Unité d'Habitation, but different in its approach to solving those issues, specifically the building's sense of urban space. Unlike the isolated Unité d'Habitation, which attempted to be a vertical city, this building relies on its dense setting and the resources that surround it (Kolleeny, 2010).

60 Richmond represents a new organizational model for housing in North America. The building is specifically marketed as a co-operative venture toward a very particular community, the local hospitality workers union (Kolleeny, 2010). Rather than using the traditional landlord and tenant relationships, the building was funded by The Toronto Community Housing Corporation, is inhabited by members of the co-operative and managed by a board of members (*Toronto Co-operative Housing Federation*).

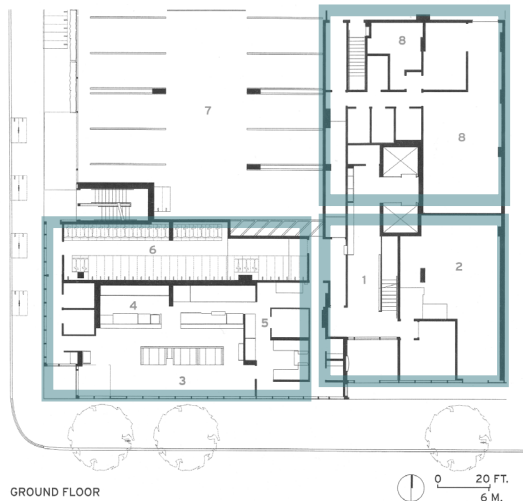
The Co-operative Housing Federation of Toronto, of which this facility is a part, has seen this organizational system result in a more affordable housing option, steadier rental rates and commitment of its members in the larger community (*Toronto Co-operative Housing Federation*). The members of the co-op are vested in the future of the building as well as the surrounding neighborhood.

On the ground floor of the building, space is devoted to three main functions, as shown by the plans. The southeast portion of the plan is allocated to an entry space and offices for the residential co-operative. The space on the busy southwest corner of the site is the training kitchen, which allows it to be seen by pedestrians on the sidewalk. Unfortunately, the northwest corner of the site has been left as a void for parking. The location of the parking in relationship to the street inhibits the lively street culture that can be accomplished through .

The upper floors are allocated for the residential functions of the co-operative as well as assets for the co-operative's members. The striped volumes represent voids within the building that are created by the varying planes of the building's south and west facades. On the sixth floor, the interior light well in the center of the building is bridged by a catwalk, providing access to a community garden space and an observation space over the city.

The architecture is a series of masses of apartment units broken up by shifts in the facade plane and voids within the building, evoking the image of a loose stack of building blocks. The voids also work to create community garden spaces

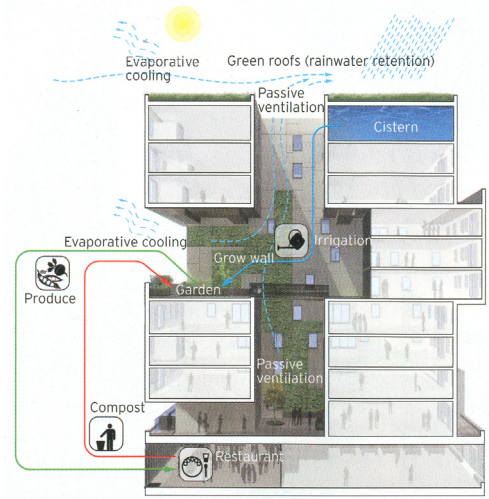
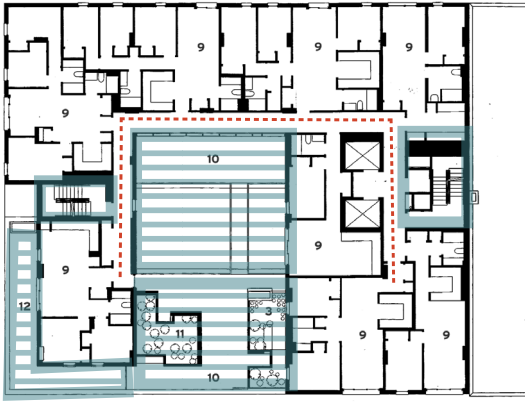




and light wells to allow sunlight into a building type that has historically had little opportunity for natural daylighting. The void in the front facade also alerts the viewer to the building's interior light well.

This blocky form responds to its urban site, directly addressing the property lines, while breaking up the overall mass as to not overshadow smaller buildings directly next to it. The ground level of the building will eventually hold a training kitchen to further support the co-operative's members. While the views of the kitchen will bring activity to the street level, the overly simple glass curtain wall that meets the sidewalk does not match the animation of the pushes and pulls of the upper floors.

This building intentionally pursues sustainability. The ground floor contains space for recycling and bicycle storage on the north side of the site. The sixth floor's community gardens and a grow wall inside the light well will provide food for the residents and supply the training kitchen with fresh produce. The air that interacts with the plantings within the building will be cooled through evaporative cooling, allowing the light well to cool the building and provide ventilation through a chimney effect. The light well is designed to reduce the amount of energy needed for lighting by providing daylighting for both the south and north stacks of apartment units.



The building's blocky exterior also begins to portray the organizational system of the co-operative, a unified series of individual members. The building does not have a very clear hierarchy, which supports its intentions as a building for co-operative housing. No part of the facade or vertical elements reads as higher or more important than the other.

This building demonstrates an organizational model of housing that is beneficial for its residents. Without a landlord to raise rents or demand high profits, the building's management can be truly free to pursue what is best for the co-operative members. It represents a design that is sensitive to the people it will house by containing training facilities that are specific to the hospitality union and through the building's location in close proximity to the district in which this community works. The environmentally sensitive features serve to better the planet while reducing the living costs of a population that is already under financial pressure. These attributes create an overall impression of design which is sensitively suited for its residents.







## CASE STUDY: QUINTA MONROY

PROJECT TYPE: SLUM REDEVELOPMENT  
ARCHITECT: ELEMENTAL  
CLIENT: GOBIERNO REGIONAL DE TARAPACÁ  
LOCATION: IQUIQUE, CHILE  
PROGRAMMATIC ELEMENTS: 93 UNITS, CENTRAL COURTS  
COMPLETED: 2004  
SIZE: 3500M<sup>2</sup>



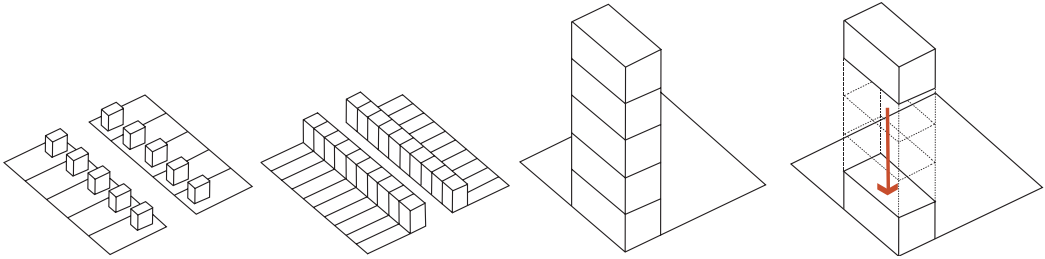
Slums naturally contain some of the best assets of good urban design. Users directly interact with their shelter, shaping it to a specific form that matches their individual needs. Businesses exist in direct proximity to residential spaces. Buildings are varied and step up to the accepted setback, creating a lively urban space. In many ways slums could be considered some of the best urban spaces.

This is not to say that the existing conditions in slum neighborhoods are ideal. Overcrowding limits movement and can impede emergency vehicles. The high density allows for little privacy and can become dangerous in the event of a fire. Inadequate sanitation quickly spreads disease throughout the community and water sources are typically contaminated. Lack of government intervention allows perpetuated cycles of indentured servitude and exploitation of the residents. Slums are not without their problems.

How does one positively intervene in a slum redevelopment without destroying the vibrancy of a thriving neighborhood or displacing its residents?

The goal for this project was to develop affordable, sustainable homes within the \$7,500 budget of government subsidies (Phaidon, 2009). The architect advocates that the typical model of developing low income housing removes residents from their urban neighborhoods to cheaper land on the outer edges of the city. This creates bands of resentment, social conflict and inequity. In the hopes of not displacing residents, this budget also had to include the cost of the



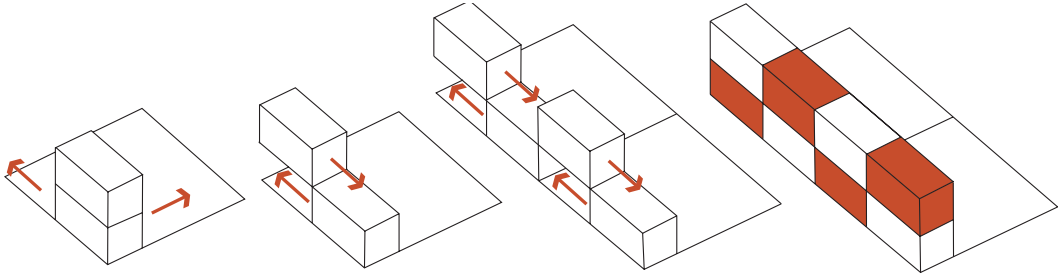


land at a rate three times that of a typical subsidized project (Elemental Architecture). Elemental Architecture approached this design problem through first considering typical modes of development in the low income sector and rejecting each of them.

The approach of isolating one residential unit on a parcel of land has led to the displacement of the individuals this housing serves. This way of developing requires a large amount of land at high prices in dense, urban centers. Equating the width of the unit to the width of the lot in a row house development was rejected because sunlight and ventilation for the existing spaces are blocked as additions are created on the building. Massing the building in a single tower isolated on the site was seen as efficient, but not fitting with the fabric of the neighborhood and lacking the ability to expand (Elemental Architecture).

The resulting design's most distinguishing factor is its initial incompleteness and subsequent user manipulation. Rather than considering the project complete at the end of construction, the concept allows users to manipulate the generic module in order to meet the needs of their family or business. After the initial construction the resulting form is a checkerboard of mass and void. As the building expands it will take on the characteristics of its inhabitants through found and selected materials, the definition of the voids into spaces specialized to the user's need and manipulation of the initial structure. The planning concept leaves room for personal pride and individual identity.

The spaces that have been fully developed during the initial construction—stairs, kitchens and bathrooms—are those which require more skill to design and construct. Voids within the architecture allow for units to be expanded as the owner's budget allows. The resulting home's size is more congruent with a mid-level dwelling unit, promoting personal



economic growth of the individual and maintenance of the neighborhood over time, a factor that has led to the downfall of many contemporary low income redevelopments.

The site for the design is located within the urban center of Iquique, allowing residents of this neighborhood access to the infrastructure and opportunities of a densely developed area.

Unlike the earlier case studies, this development is not contained within a single building, but is a series of four compounds, each with many dwelling units along its exterior edge. Because of this organizational pattern, the circulation for the design is from the street to these inner courtyards, as noted in red on the site plan. The open space could be used as a community gathering space for the neighborhood and parking.

The plans for the individual units provide room for expansion and suggest a potential program for the additional space. The interior staircase awkwardly separates the public spaces of a unit this small in size and the second plan for expansion calls for a hallway near the stairs on the upper level, further taking up valuable space. Living spaces are separated from the possibility of interaction with activity in the central court by their placement on the upper level of the dwellings and placement of parking along the court's perimeter.

Both the initial construction and eventual expansion use readily sourced materials, increasing the likelihood of construction. The design allows natural daylight in, while thick concrete walls and structure provide the thermal massing necessary for passive cooling without the aide of expensive air conditioning. The flexibility of the development will provide a structure that will serve its inhabitants for a long period of time.

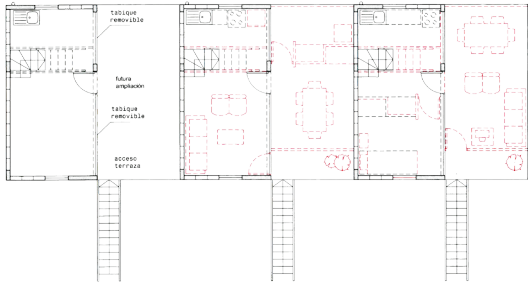
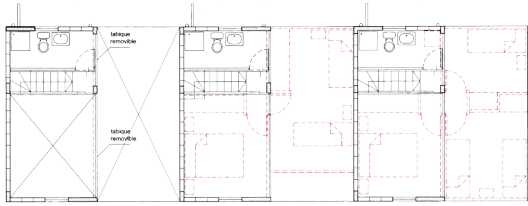
Possibly more important is the design's approach to social





sustainability. Its adaptations allow an individual to establish himself or herself in a neighborhood and allows for the dwelling to adapt to increasing prosperity rather than uprooting the inhabitant to a new location.

This design is significant for its development of a new approach to low-income design and strategic use of government subsidies. It lacks the high tech materials and systems feature in many sustainable buildings, but provides low tech alternatives and social sustainability. The overall scheme is well designed, but some of the interior spaces lack the imagination or fluidity that would elevate the overall design.



# CASE STUDY SUMMARY

Each of these pieces of architecture presents a different design that uniquely responds to the historical and cultural context in which it was conceived and a different series expectations for what housing should entail. Each building was analyzed for its site relationships, programmatic elements, organization, sustainability and form. When viewed as a whole they contrast the different ways these examples address scale.

All of these represent examples of urban housing, but the way the buildings address their sites is very different. Unité d'Habitation does not even appear to be an urban project at first inspection because of the way the mass of the building is concentrated within a field of green space. Its piloti offer privacy at the cost of isolating the residents from the larger urban space and its activity. Quinta Monroy turns its back toward the urban environment around it, providing what could be community courtyards. From the stance of privacy within an urban environment, this example is the best executed because community spaces are located within the interior, but it lacks interaction with the activity of the street. 60 Richmond meets the street directly and provides activity in the urban landscape by placing its training kitchen in full view of the sidewalk.

Each of these designs also approaches the issue of housing from a slightly different scale. The massive Unité portrays midcentury planning ideas to create large, dense housing that would respond to the need to house a great number of people in post-war Europe. It provides 85 units in 11 stories. Medium in scale, this project visually limits its sense of scale by breaking up the facade and creating voids within the building. While relatively large, Quinta Monroy depicts a more human scale, while incorporating the same number of families who were originally living illegally on the site in a dignified approach.

The relationship of the individual units to the overall structure

and community spaces also varies widely through the course of the research. In the case of Unité d'Habitation, the units are organized with efficiency in mind and community amenities are concentrated in specific locations of the building: the rooftop and interior shopping district. 60 Richmond utilizes an open central core to provide views, gardens and exterior space to the community throughout the design, and still maintains a degree of efficiency through a single-loaded corridor around the exterior of the negative space. Quinta Monroy contains several centers of open space--a valuable asset--but does not address them with a function and isolates them through the placement of parking and placement of the living space within the units. The organization of the units provides for what could become neighborhoods within the development.

Beyond the residential units that are the focus of each of these projects, some contain elements that provide for a more holistic interpretation of dwelling. The Unité d'Habitation provides space for exercise, education, and socialization in the form of a bar and restaurants and commerce through its shopping facilities. The issue with this type of development is its complete self reliance and consequential isolation from the urban community. 60 Richmond addresses the specific needs of its determined population through training facilities that will have a positive impact on its residents in the forms of education, financial gain and impact the surrounding community. Beyond these quantitative measurements, the restaurant will also begin to integrate the housing and its residents with the neighborhood, providing a locale for interactions. Quinta Monroy addresses only the basics of housing, while locating those requirements within an integrated urban site to allow interaction with the surrounding community to provide for the requirements of its inhabitants.

Each of these also portray a level of sustainability by addressing social, economic and environmental issues. Unité d'Habitation was advanced for its time by creating cross



ventilation and daylighting from multiple sides of the building within an apartment building. 60 Richmond addresses a specific social group that is traditionally disadvantaged and eases economic costs for these residents through energy savings, employment, and its co-operative organization. Quinta Monroy uses limited low tech strategies to limit the energy needs of the structure, while responding to individual economic advancement through the opportunity to expand the living units.

This differentiation in form is akin to the philosophy of each of the development schemes. The overtly Socialist ideas of the international school are portrayed by the solid mass of Le Corbusier's work. 60 Richmond's mass and void relationships allude to the united mentality of both co-operative ventures and employment-based unions. Quinta Monroy allows for personal variation within the regimented whole and portrays an organized series of very individualistic expressions.



# HISTORICAL CONTEXT

## SOCIAL DESIGN IN HISTORY

During the 1970s the architectural profession linked itself to the social sciences as a way of defending itself from the encroachment of builders and engineers (Vanderburgh, n.d.). Following this time period, the profession has maintained this relationship with the social sciences.

## THE RENAISSANCE OF SOCIAL DESIGN

There is a current shift toward social design within the field of architecture. It can be witnessed through the recent success of humanitarian design organizations and the adoption of ethically-based design into the curriculum of design schools. Recent publications such as *Design like you give a damn*, *Design for the other 90%*, *Design Revolution*, *Expanding Architecture: Design as Activism* and publications by the Rural Studio are indicative of the interest in this subject. Organizations are developing around this concept. Architecture for Humanity, the poster child of the movement, saw an increase in participants from 3,000 in 2004 to more than 7,000 in 2008 (Architecture for Humanity, 2010).

This shift is due to compounding factors, one being the current lack of work in traditional markets which has led architects to consider other avenues of design. The group that receives these design services may lack resources, but they make up for it in numbers. According to the founder of Architecture for Humanity, Cameron Sinclair, “having five billion clients is better than fifty” (Sinclair, 2009)

## THE URBAN RENAISSANCE

The project also comes at a time that highlights urban issues. Housing within urban areas is at an all-time high. The renaissance of the city will require a reevaluation in the way we build urban space. In *Visions of the Future*, an essay

accompanying the Living in the City Competition of 2000, Lord Rogers of Riverside states that,

If there is to be an urban renaissance, we need ideas and proposals about the city for public debate, landmark statements that will influence the future of our cities.

As city centers see an increase in residents from the wealth of the suburbs and a resulting gentrification it will be even more important to provide spaces and residences that are financially accessible to low income individuals. A location near the opportunity and accessibility of a densely populated zone is essential to the rejuvenation of a disadvantaged group of people. Such a landmark statement will require a changed architecture to meet the current climate. Hillary French opens her book on urban housing with a description of this essential change.

In the early twenty-first century, the new interest and motivation to find alternative to outmoded and unsustainable conventional models for housing is attributed to a whole range of factors—changing demographics, changing work patterns, increased life expectancy and technological innovations that have resulted in constant connectivity (French, 2006).

If our architecture is to be successful it must be attuned to the forms of such change.



# PROJECT GOALS

Through an architectural thesis project students should question the ideas they have come to understand through the course of their education and engage in a topic that will launch them into their career as a practicing architect. This thesis addresses the academic, professional and individual audiences; to this end the goals of the project are trifold.

## PERSONAL

During the course of my education I have been confronted with both the realities of low income housing situations and the desire to create the beautiful, expressive spaces typical of high budget projects. Working for a nonprofit organization challenged my decision to major in architecture, which can be seen and practiced as a highly materialistic profession. The work of determining the most poetic use of expensive materials can appear trivial when exposed to the harsh conditions others face.

This has led me in places that I did not foresee when I initially decided to pursue architecture. Personally this thesis is a resolution of my architectural and nonprofit pursuits.

Through this thesis I hope to propagate the essential and sometimes minority view that architecture is a social act. While architects are always at the disposal of their clients, it is our ability to communicate and persuade others of ethics that makes us professionals.

## ACADEMIC

As the closing design of a degree program, the academic goals of the project are to demonstrate the accumulation of the skills of an architect. The project acts as a collection of all of the courses that have been taught thus far.

Thesis projects also serve as questioning devices, creating room for what is not allowed by the constraints of the profession. Through academic work, including thesis projects, the profession is stimulated with new ideas, information, and relationships.

#### PROFESSIONAL

As a final project in architectural education, the thesis serves to transition from education to practice. I hope to demonstrate through this thesis that I have learned the appropriate skills to successfully complete a finely detailed architectural creation that addresses all of the information I have gained as a student.

While my interests in architecture are not purely focused on social equity, it is an attribute that I hope to carry into my life after school. I no longer see it as a requirement to be directly involved in design for the disadvantaged, but my personal life will always represent this bent.

# SITE NARRATIVE

The site was chosen for its location within the urban district of Fargo. In Jane Jacobs' *The Life and Death of Great American Cities*, she illustrates the power of economic development within the urban environment.

Although it is hard to believe, while looking at dull gray areas, or at housing projects or at civic centers, the fact is that big cities are natural generators of diversity and prolific incubators of new enterprises and ideas of all kinds. Moreover, big cities are the natural economic homes of immense numbers and ranges of small enterprises (1993).

Jacobs and others indicate that the proximity experienced within a city allows for the diversity that allows businesses and individuals to thrive.











THE ARCHITECTURE OF THE  
UNIVERSITY OF CALIFORNIA  
AT BERKELEY  
1950















# QUALITATIVE SITE INFORMATION

## LOCATION

The site is located within the downtown district of Fargo, ND.

## SITE CHARACTER

The character of the site is distinctly urban. The surrounding area lacks experience with the natural world beyond the occasional tree within the sidewalk. Broadway's storefronts are not completely filled, but the area is seen as a lively district with a particular focus on the arts scene. Many of the spaces along Broadway are dedicated to galleries and the NDSU Art Department is present downtown. During the evenings and weekends the area is a local hangout for the area's large population of college students.

## VISUAL FORM

Being an urban site, the chosen location does not provide many long vistas from the site itself. The potential for the existing views—such as the historic depot to the southwest of the site—to be destroyed during ongoing development is very high. Fargo's back alleys provide a location for power utilities, but also create a slice through the urban landscape and a distinct views to the north and west of the site. .



## VEHICULAR TRAFFIC

Fairly heavy vehicular traffic borders the site to the south and east. The alley frequently contains large vehicles for loading and unloading of goods at service entries. Traffic to the north and south of the block moves in only one direction, as indicated by the arrows on the diagram on the facing page.

## PEDESTRIAN TRAFFIC

The alleys to the north and west provide a back entrance for foot traffic, while the south and east perimeters are serviced by their respective sidewalks. Pedestrian traffic also cuts through the site to shorten the path between NP and Broadway. Foot traffic is high because of the urban setting and varies throughout the day with peaks during the typical rush hours. After drinking establishments are closed for the evening, foot traffic generally ceases.



# SITE MATERIALS

After several historical fires the downtown district of Fargo has been rebuilt with predominantly brick exteriors in a variety of colors. The surrounding buildings vary in age and detailing, with the newer buildings incorporating stucco, cementitious siding and metal panels. The existing power lines in the alleys will give way to a smart grid in the near future. Signage and a paved ground surface distinguish this area as an urban site.





looking north at the site from N.P. Avenue.

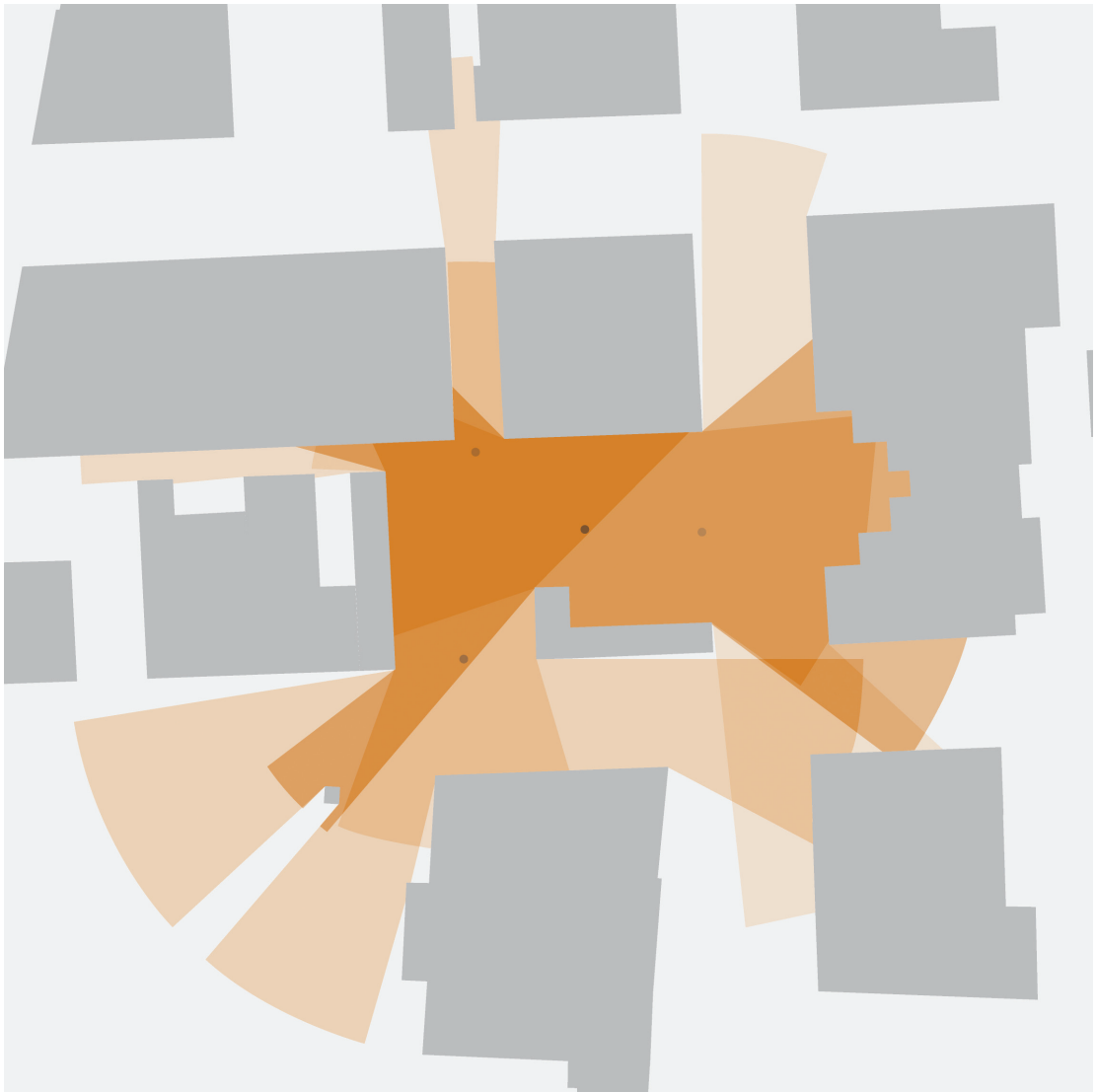


looking west at the site from the east side of Broadway.



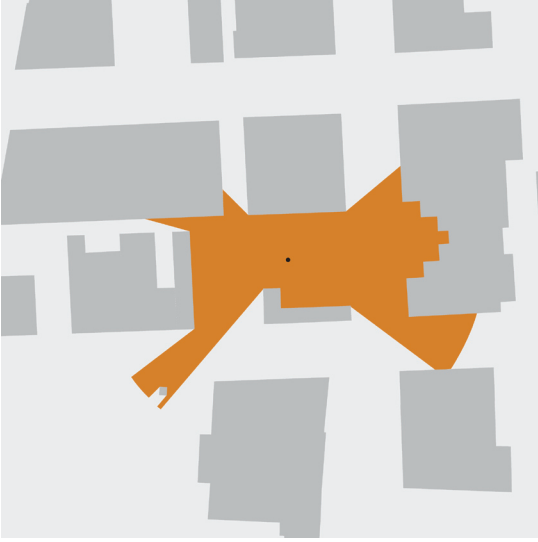






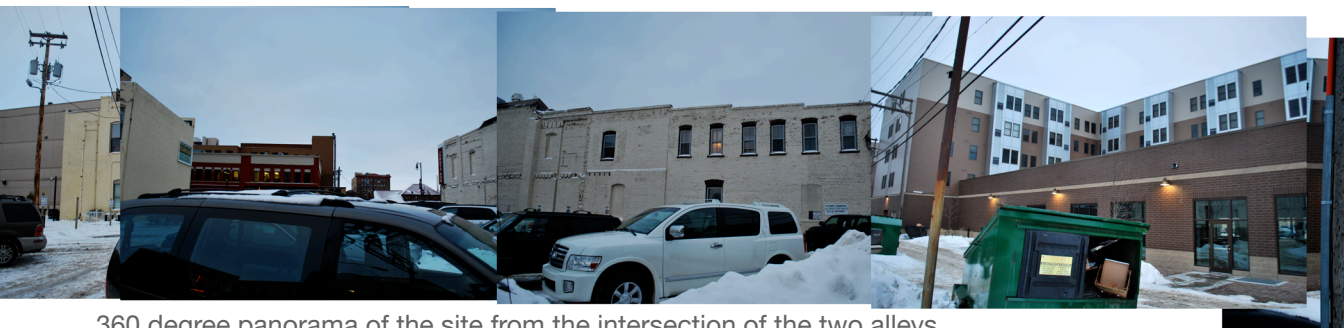
### SITE ISOVIST DIAGRAMS

Isovist diagrams convey the amount of visible space between a central point and the edge of an arbitrarily sized circle in plan. For this site, four specific points were identified for analysis: the center of the site, positions along the two street fronts and intersection of the two alleys on the north side of the site. These diagrams present the limited views and viewsheds created by the urban environment. The illustration above is an overlay of these four diagrams and demonstrates the accumulative sightlines to and from the site.





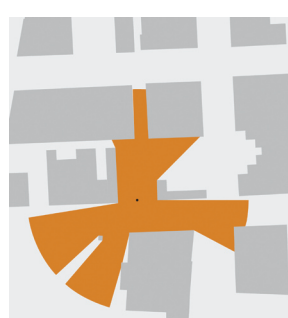
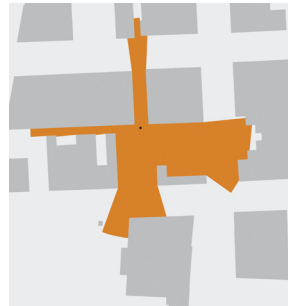
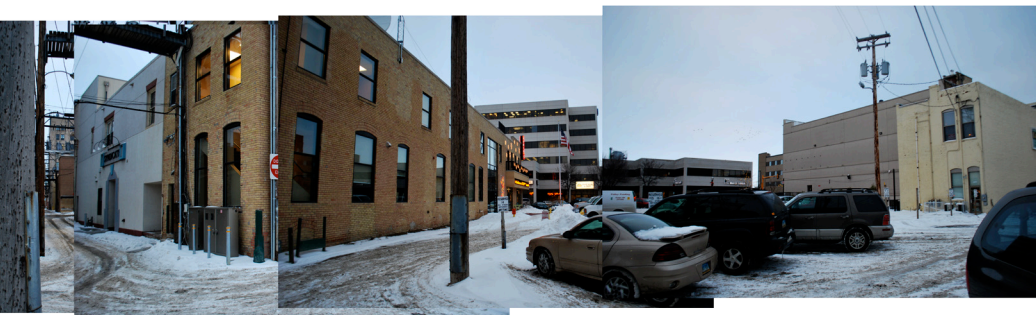
360 degree panorama of the site from the sidewalk on the west side of Broadway.



360 degree panorama of the site from the intersection of the two alleys.



360 degree panorama of the site NP Avenue





# PEDESTRIAN SHEDS



generic pedestrian shed



civic functions pedestrian shed



park space pedestrian shed



transit routes pedestrian shed



# QUANTITATIVE DATA: EARTH

## TOPOGRAPHY, SOIL AND SLOPE

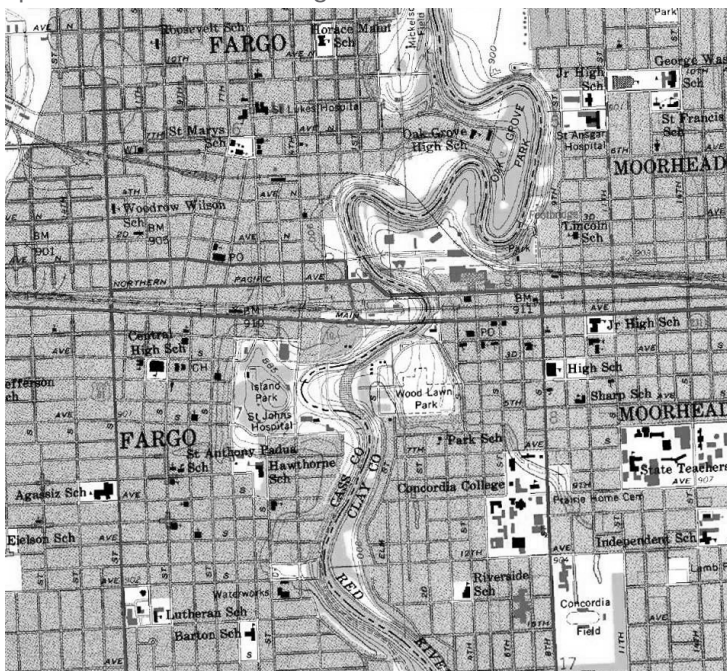
The soil on the site is classified as Urban land, with between 0 to 2 percent slopes. Typical of fargo and many urban spaces, the land has little to no slope. This will create a concern for drainage on the site, but offers a an easy terrain for building a structure. The earth beneath the site is muddy soil deposited by Lake Aggasiz and unsuitable to support tall structures without extensive foundations.

## UTILITIES

water and sewer utilities run along the alleyways in downtown fargo and can be accessed from the Northwest corner of the site.

## PLANT COVER

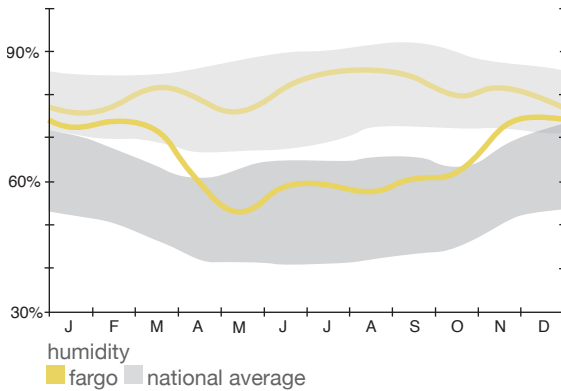
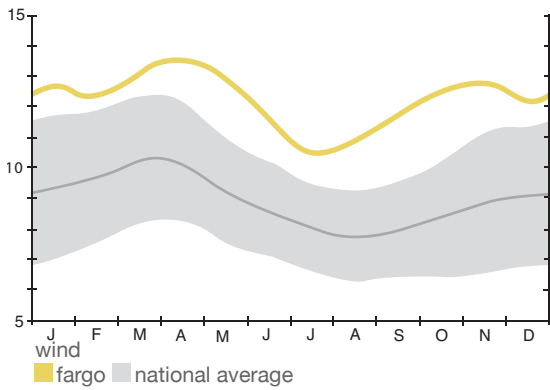
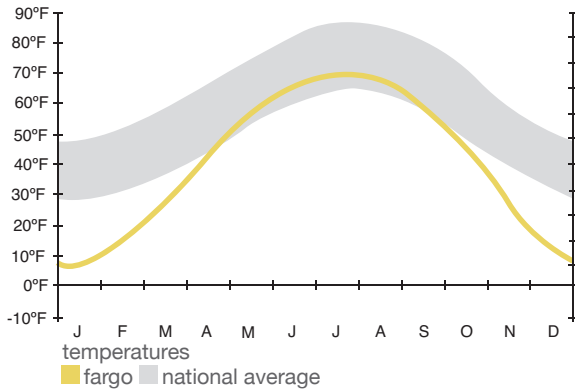
The site is currently a combination of gravel and asphalt parking lots and does not contain any notable plant cover. Across the street to the east of the site, a plaza space provides space for several trees to grow.





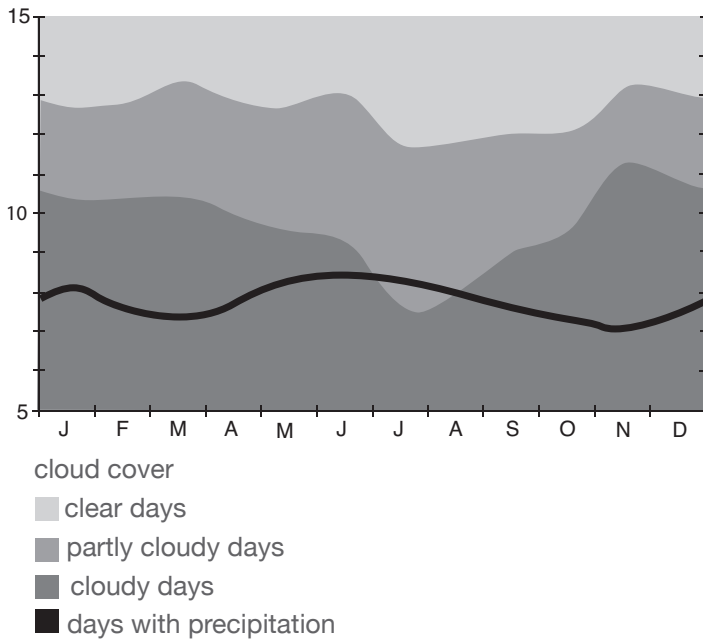
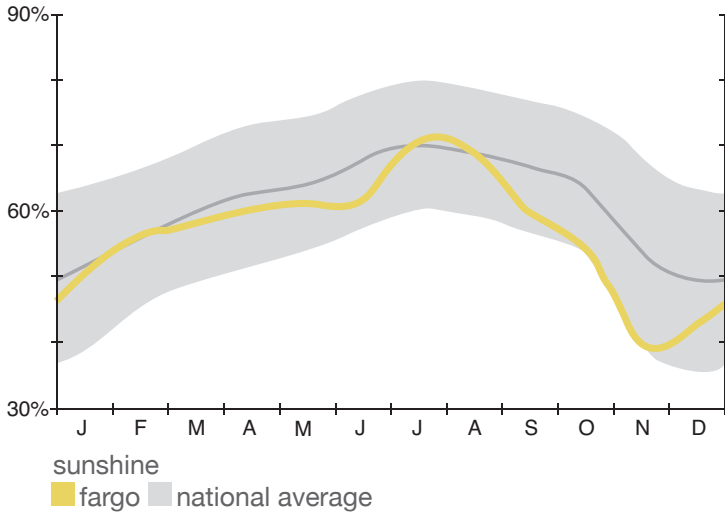


# QUANTITATIVE DATA: SKY





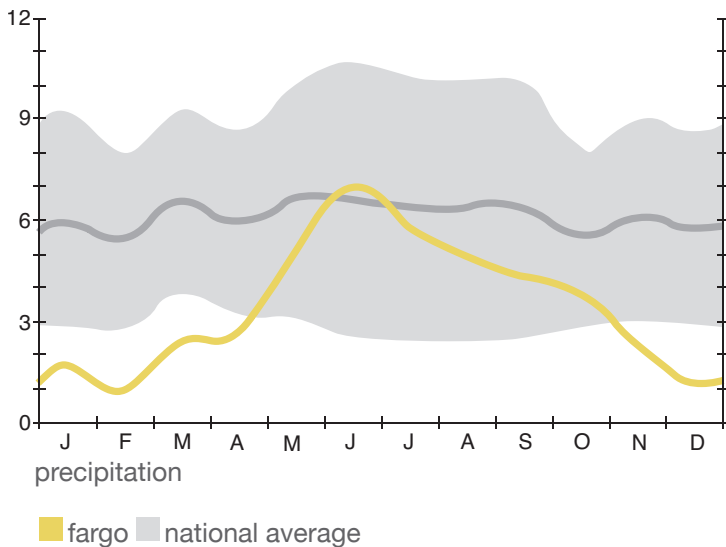
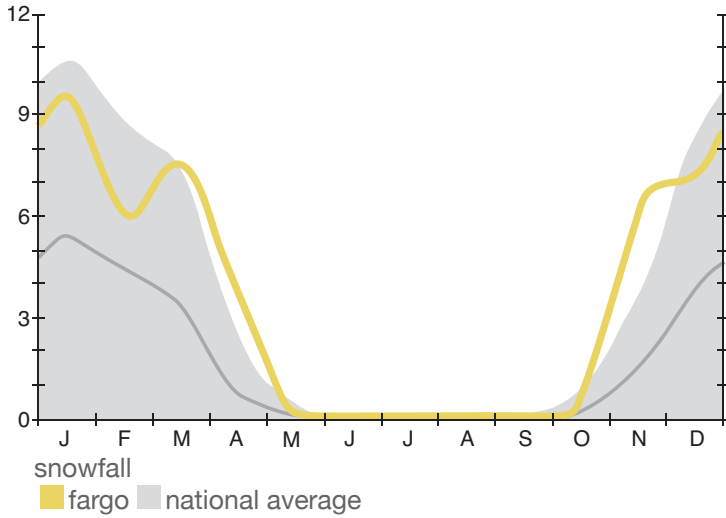
# QUANTITATIVE DATA: SUN







# QUANTITATIVE DATA: WATER





- river
- floodway
- 100 year floodplain
- 500 year floodplain

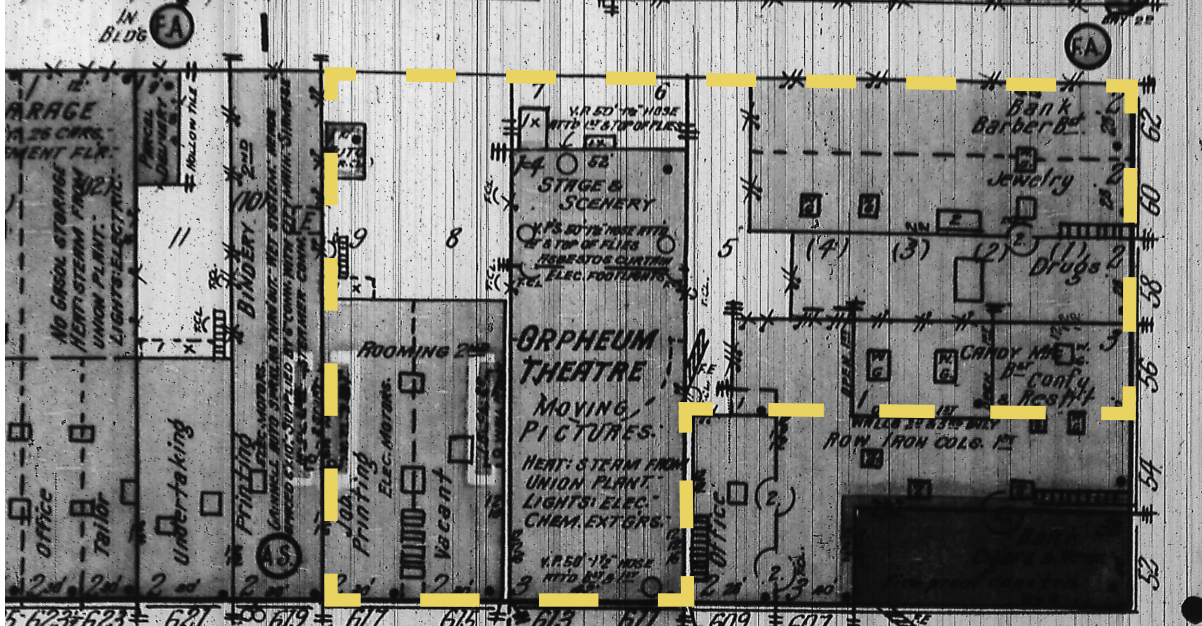
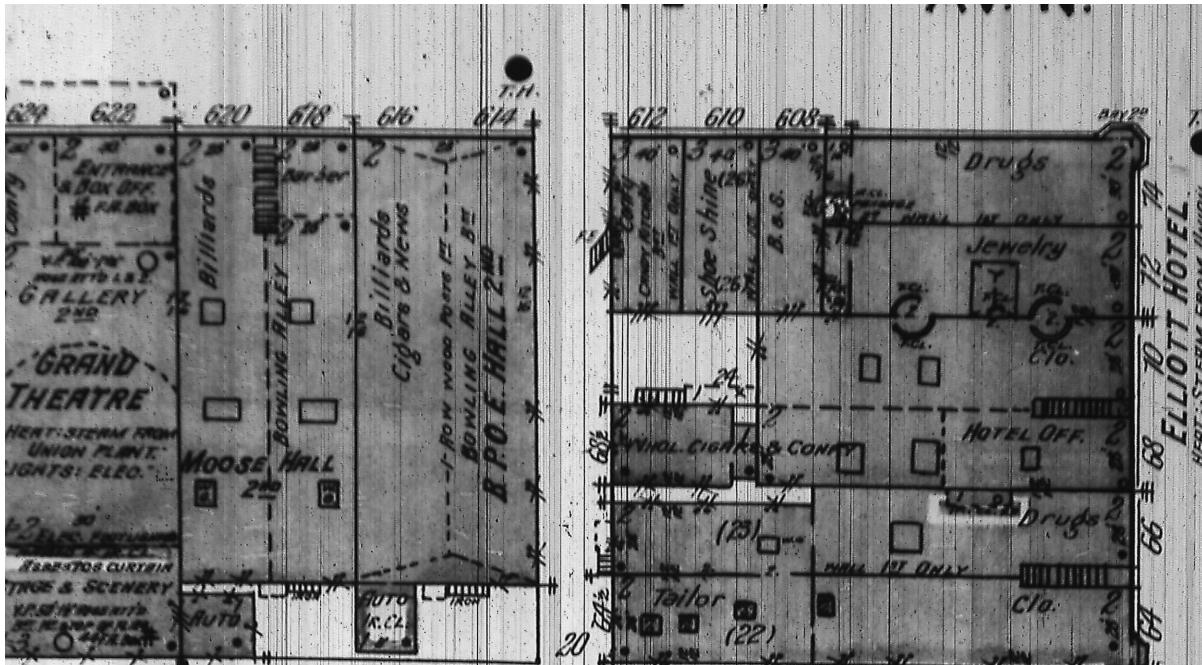




# HISTORICAL SITE ANALYSIS

The Sanborn map at left indicates the development and of the site as of 1922.

The usage of the site and surrounding district has shifted over the course of time. The map indicates that at the site contained a barber, jeweler, drugstore, department store, movie theater, printing shop and housing at time of the map's creation and still had room for a vacant storefront. As of 2010 the site contains a solitary function: parking.



5-623-623-621-619-617-615-613-611-609-607

SIAMASE STX COMM.

T.H.

**FARGO NATIONAL BANK**  
 Fire proof constr. BUILT 1912.  
 REIN. CONCR ON STEEL FRAME. BRICK  
 FACED ON STREET SIDE.

**NORTHERN PACIFIC AV. S.W.**

10 T.H.

ELLIOTT HOTEL  
 HEAT: STEAM FROM UNION



# PROGRAMMATIC REQUIREMENTS

TOTAL SQUARE FOOTAGE: 100,000 FT<sup>2</sup>

RESIDENTIAL FUNCTIONS: 38,000 FT<sup>2</sup> (38%)

residential entrance: 800 ft<sup>2</sup> (0.8%)

laundry rooms: 300 ft<sup>2</sup> (0.3%)

residential units: 36,900 ft<sup>2</sup> (36.9%)

20 one person units: 500 ft<sup>2</sup> each

10,000 ft<sup>2</sup> total

20 two person units: 1,000 ft<sup>2</sup> each,

20,000 total

5 three person units: 1250 ft<sup>2</sup> each,

6,900 ft<sup>2</sup> total

each unit will include spaces or the means to adapt spaces for socialization, sleeping, learning, relaxation, eating, cooking and bathroom needs.

COMMERCIAL FUNCTIONS: 25,000 FT<sup>2</sup> (25%)

commercial units: 20,000 ft<sup>2</sup> (20%)

service entrance: 5,000 ft<sup>2</sup> (5%)

COMMUNITY FUNCTIONS: 15,000 FT<sup>2</sup> (15%)

greenhouse and living machine: 12,400 ft<sup>2</sup> (12.4%)

bicycle storage: 600 ft<sup>2</sup> (0.6%)

classrooms and offices: 2,000 ft<sup>2</sup> (2%)

OTHER: 22,000 (22%)

circulation: 10,000 ft<sup>2</sup> (10%)

mechanical: 10,000 ft<sup>2</sup> (10%)

structure: 2,000 (2%)

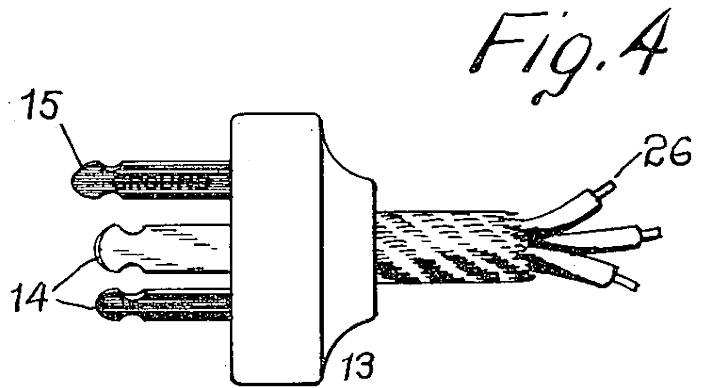






# process

site massings	113
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The electric plug serves as a lesson in creating universal. Despite years of technological innovation since the implementation of the two prong system in the United States, the electric plug is still the mode of powering our electronics. Systems should be created in a way which allows for adaptation, expansion and new technologies to advance.

Fig. 2

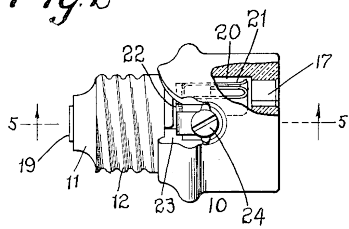


Fig. 5

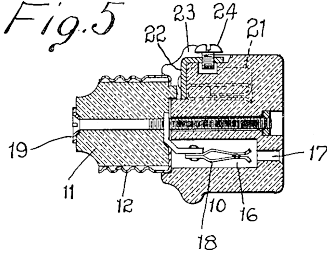
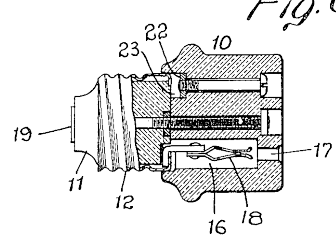


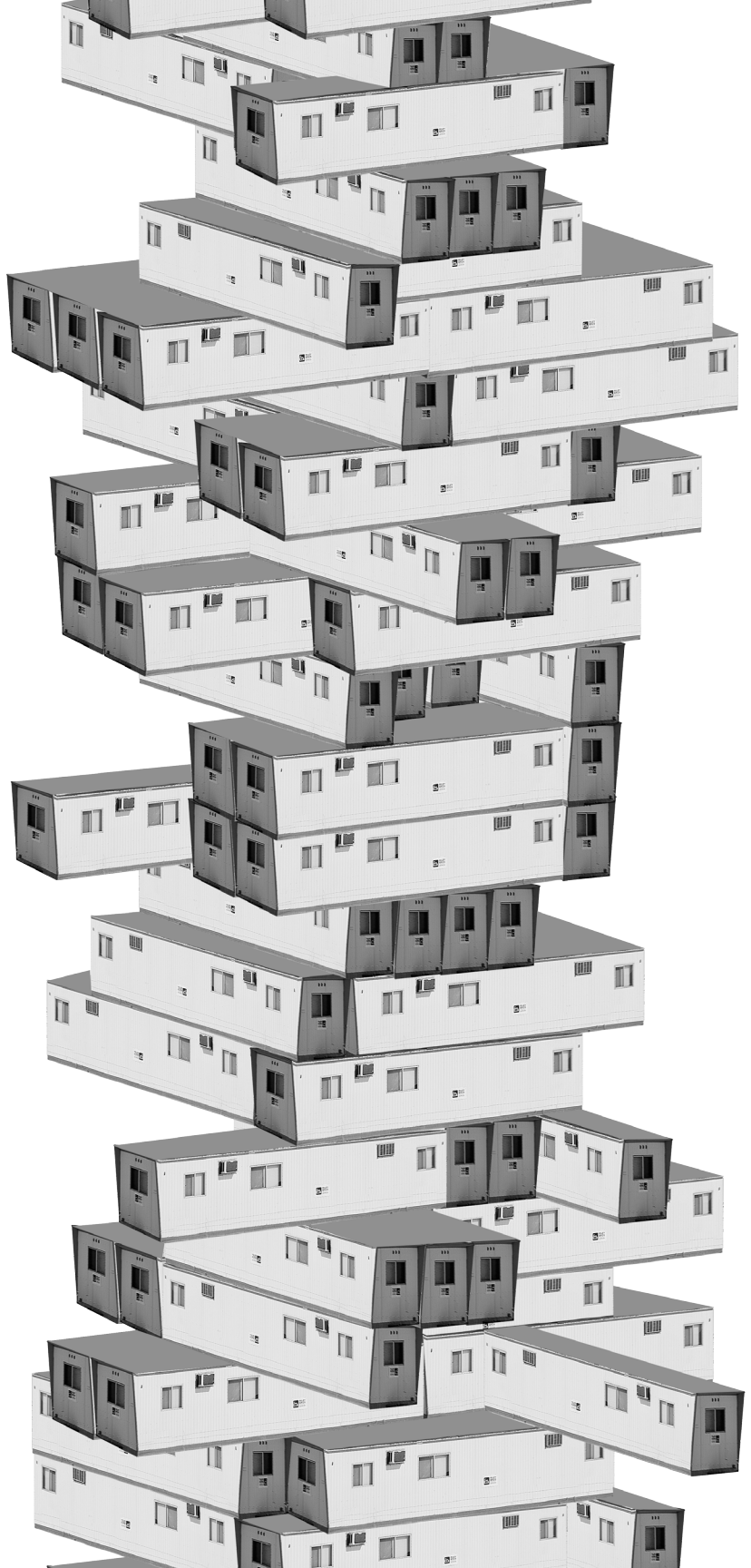
Fig. 6

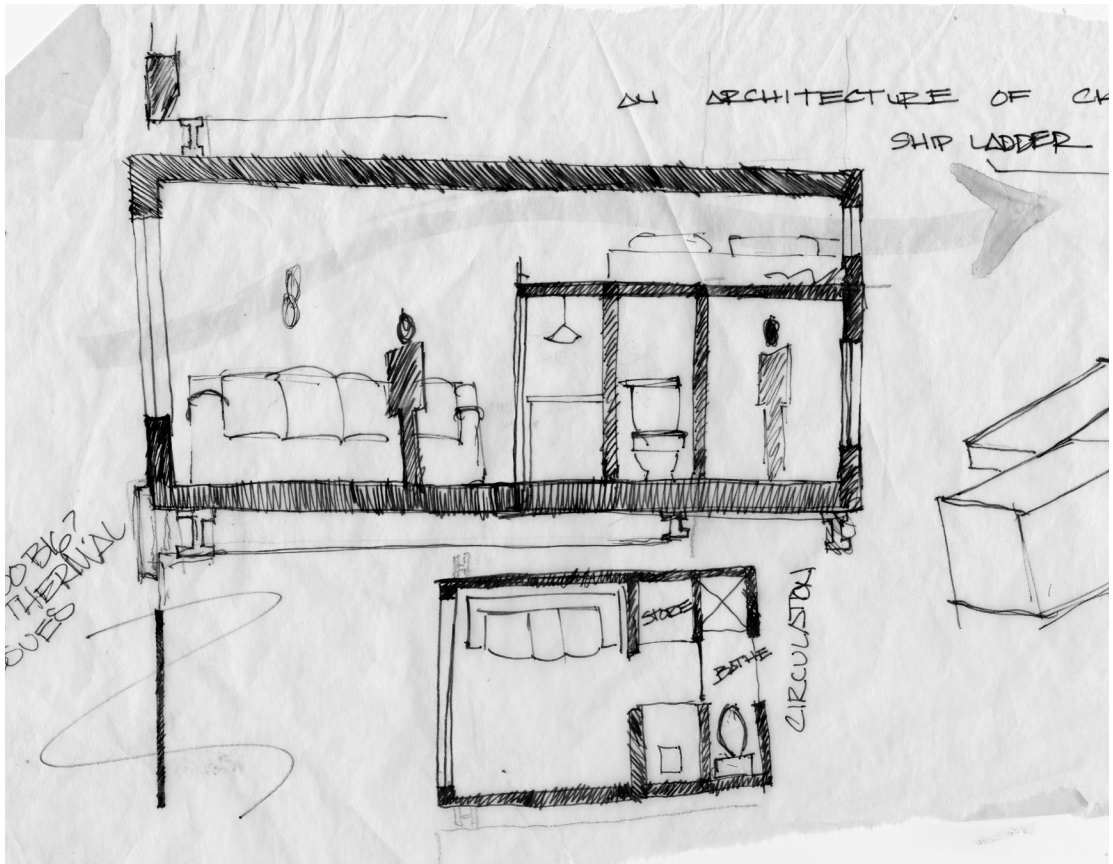












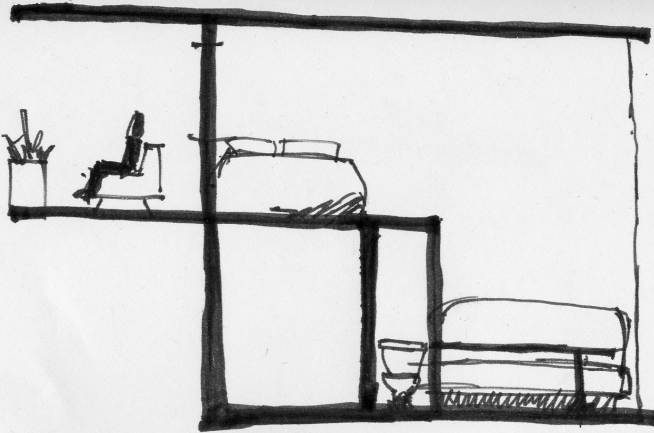
OVER PRODUCTION/  
 MASS PRODUCTION'S  
 ROLE IN HOW WE SEE  
 BUILDINGS  
 "COMMODITY"

(.25.10)

AN ARCHITECTURE OF  
 MARKET FORCES.  
 CHANGING FORCES  
 CHANGING PERSONAL  
 ECONOMIES  
 CHANGING ARCHITECTURE

OVINABLE?  
 LOW INCOME HOUSING  
 SUBSCRIBES TO A SINGLE  
 MODE, REGARDLESS OF  
 CIRCUMSTANCE  
 \*DIFFERENT  
 MODES\*

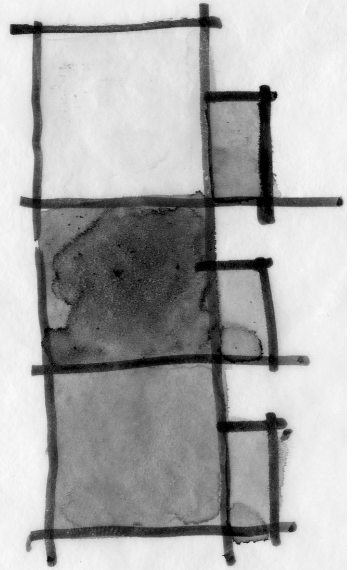
TOO LARGE

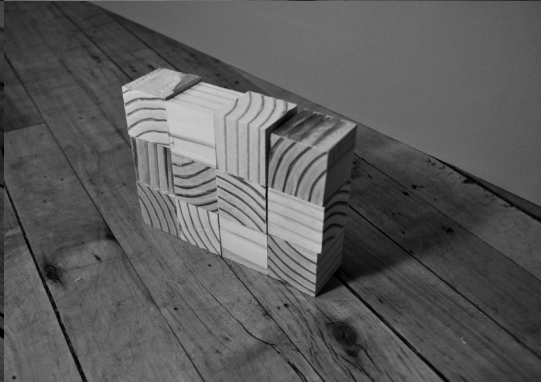
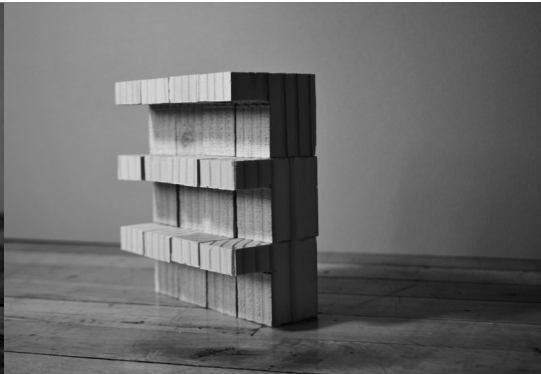


CIRE,

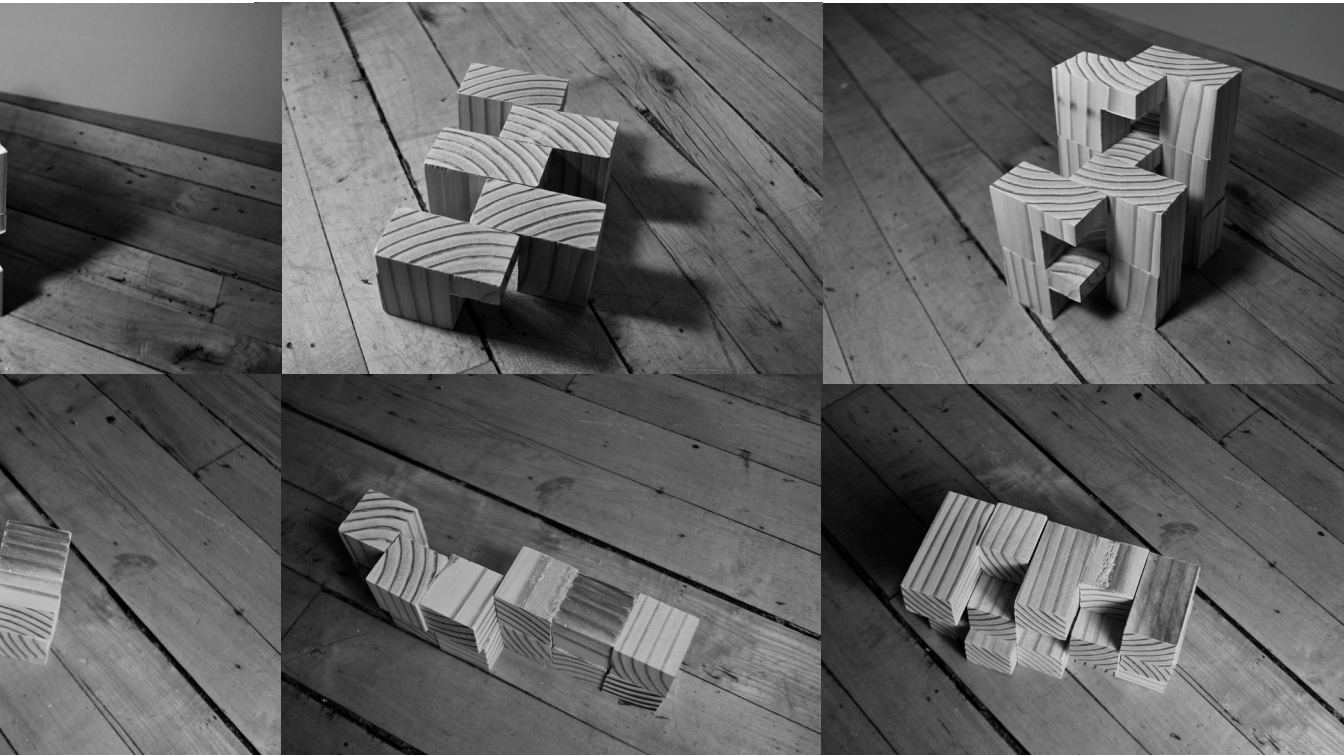
GAIN CROSS  
AT COST

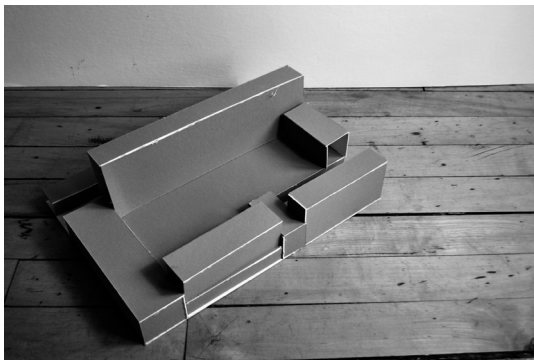
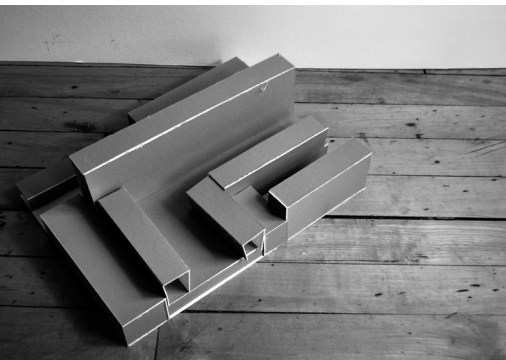
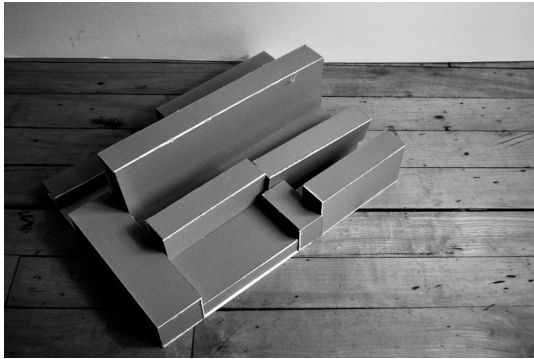
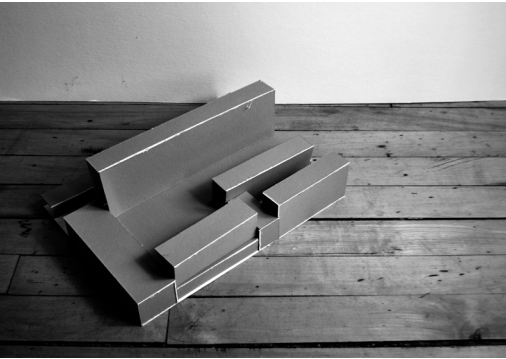
SINGLE LOA







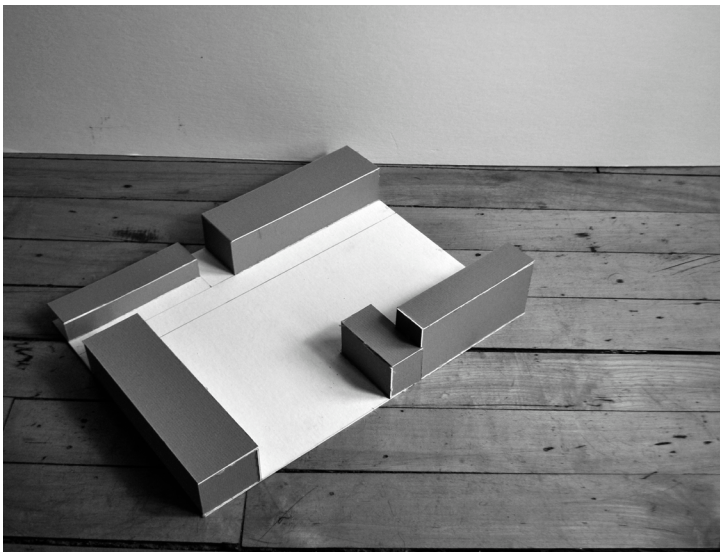




# SITE MASSINGS

The urban site that this project pursues requires a certain way of thinking about the site. Once the initial form of the modules was established, a linear organization necessitated by code and the requirement for crane access. These linear masses were created in a variety of dimensions based on single or double loaded corridors with enough room for horizontal circulation. Once these forms were established they could be placed in various positions on the site, allowing for analysis of form, urban response and passive advantages of the different layouts.

In order to bolster the urban density of the district the site lies within, a solid ground floor was initially laid to address the The northern mass was originally established



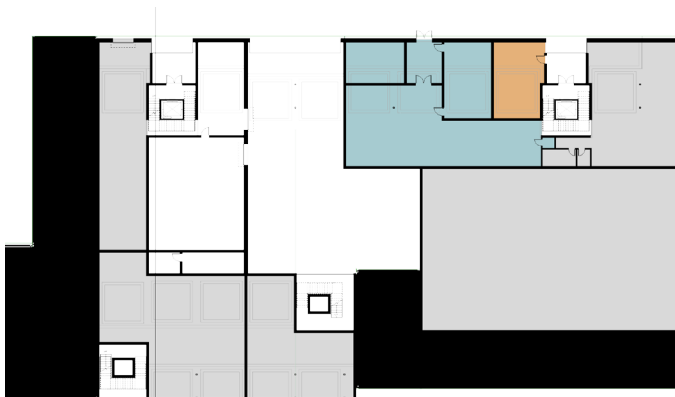
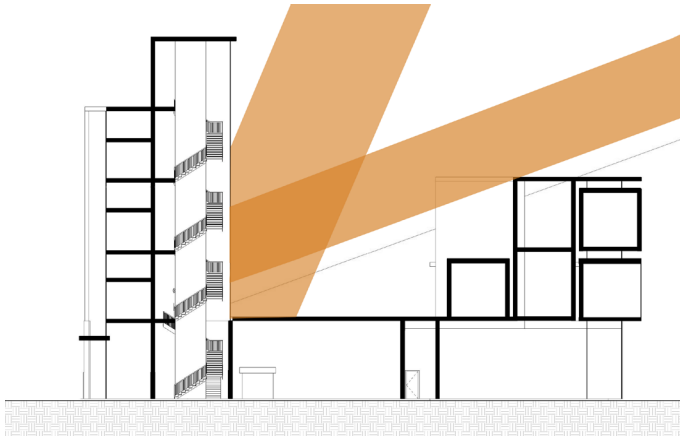
# MIDTERM DRAWINGS

114

PROCESS







# MIDTERM REVIEW

A midterm review of the project was presented on March 7, 2011 and was attended by David Crutchfield and his section of the thesis studio. Professor Frank Kratky and Dr. Bakr Ahmed served as guest critics. The images at right were used as a digital presentation during the review. Below are comments transcribed from a recording of the presentation and the following comments.

FRANK KRATKY

The research and reading is impressive. What is an affordable house for somebody who has nothing. The choice of your site is quite constrained, forcing verticality.

“You are touching on the most critical problem the human has not solved yet.”

“What is an affordable house for somebody that has nothing? There’s an issue right there.”

“Modularity, mobility you’re hitting on all the right points... Flexibility is the one major issue in the architecture. Focus on the word change. Social. Change.”

DAVID CRUTCHFIELD

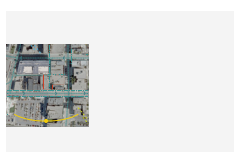
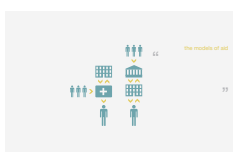
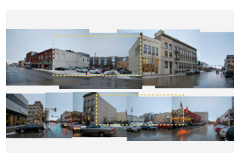
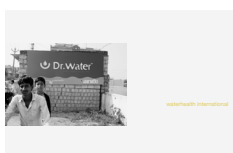
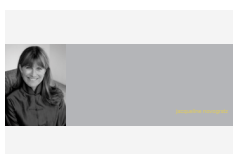
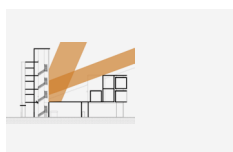
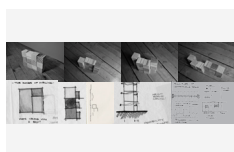
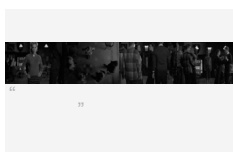
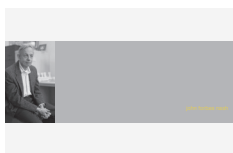
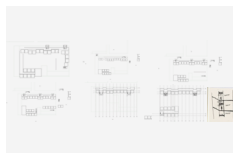
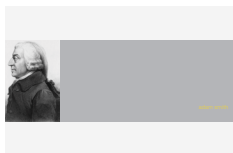
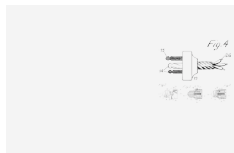
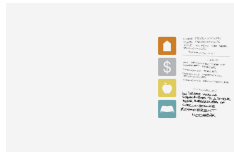
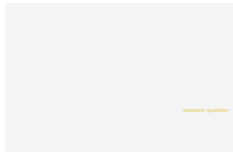
Emphasize the various layouts and environments that make the units personal. Is it possible that the armature may not be full at times and how would this effect your design?

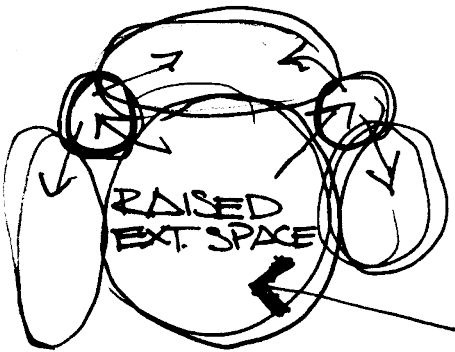
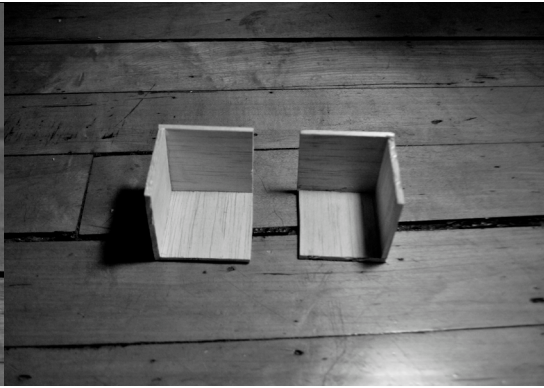
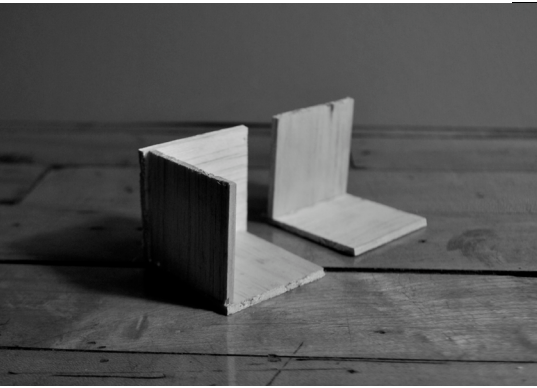
ZACH MATHERN

Allowing each unit to function completely independently requires a doubling of surfaces, increasing cost in what should be a cost sensitive project.

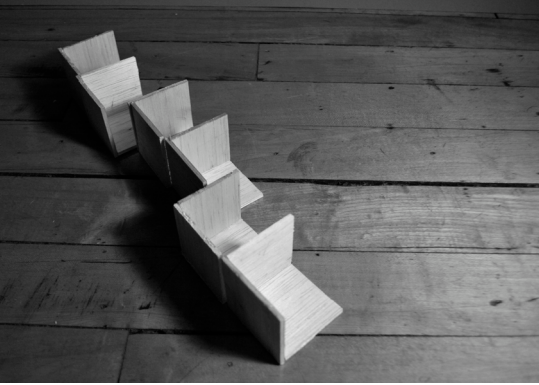
DR. BAKR AHMED

What do you bring to housing that other apartment buildings do not?











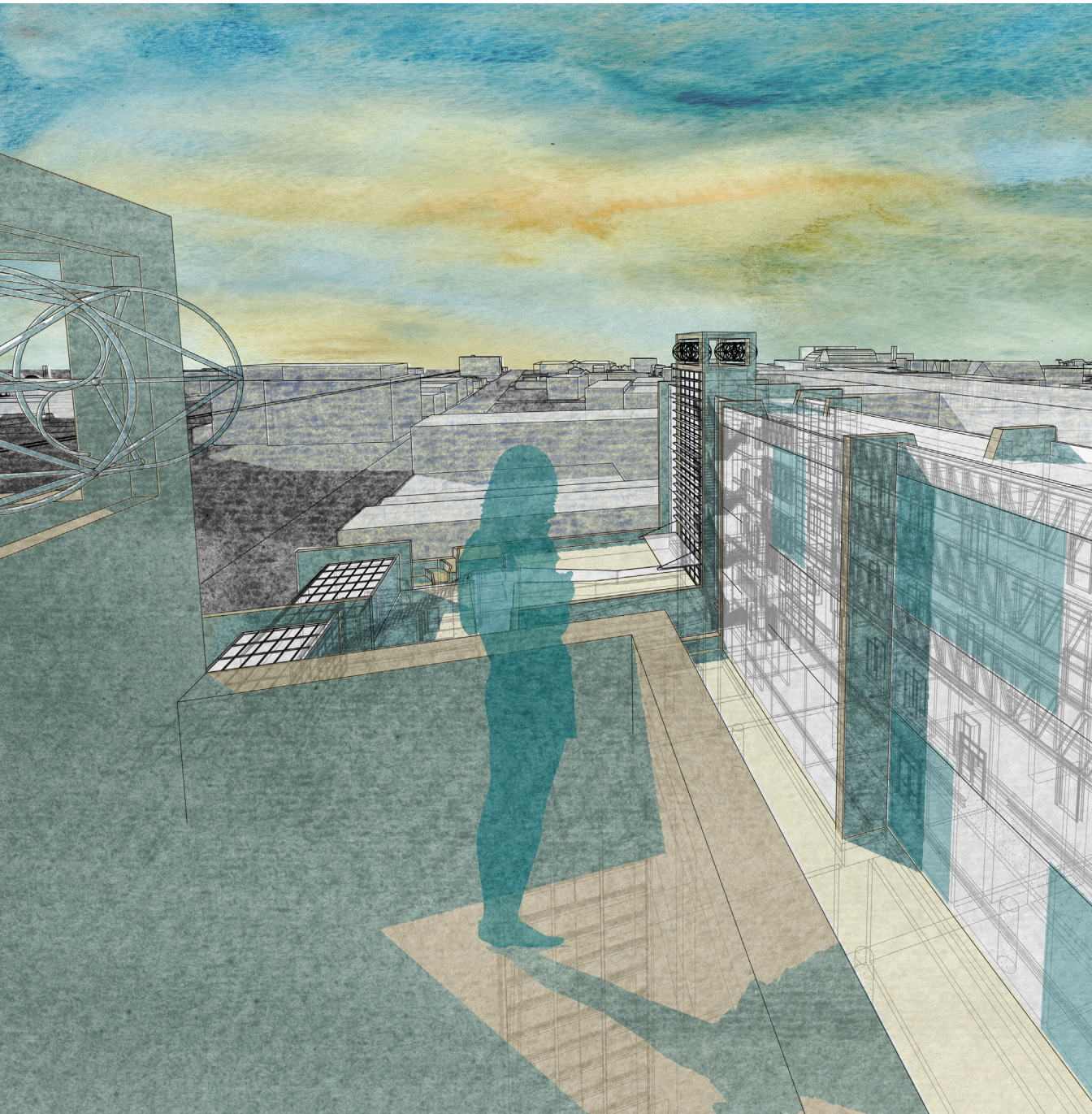




# product

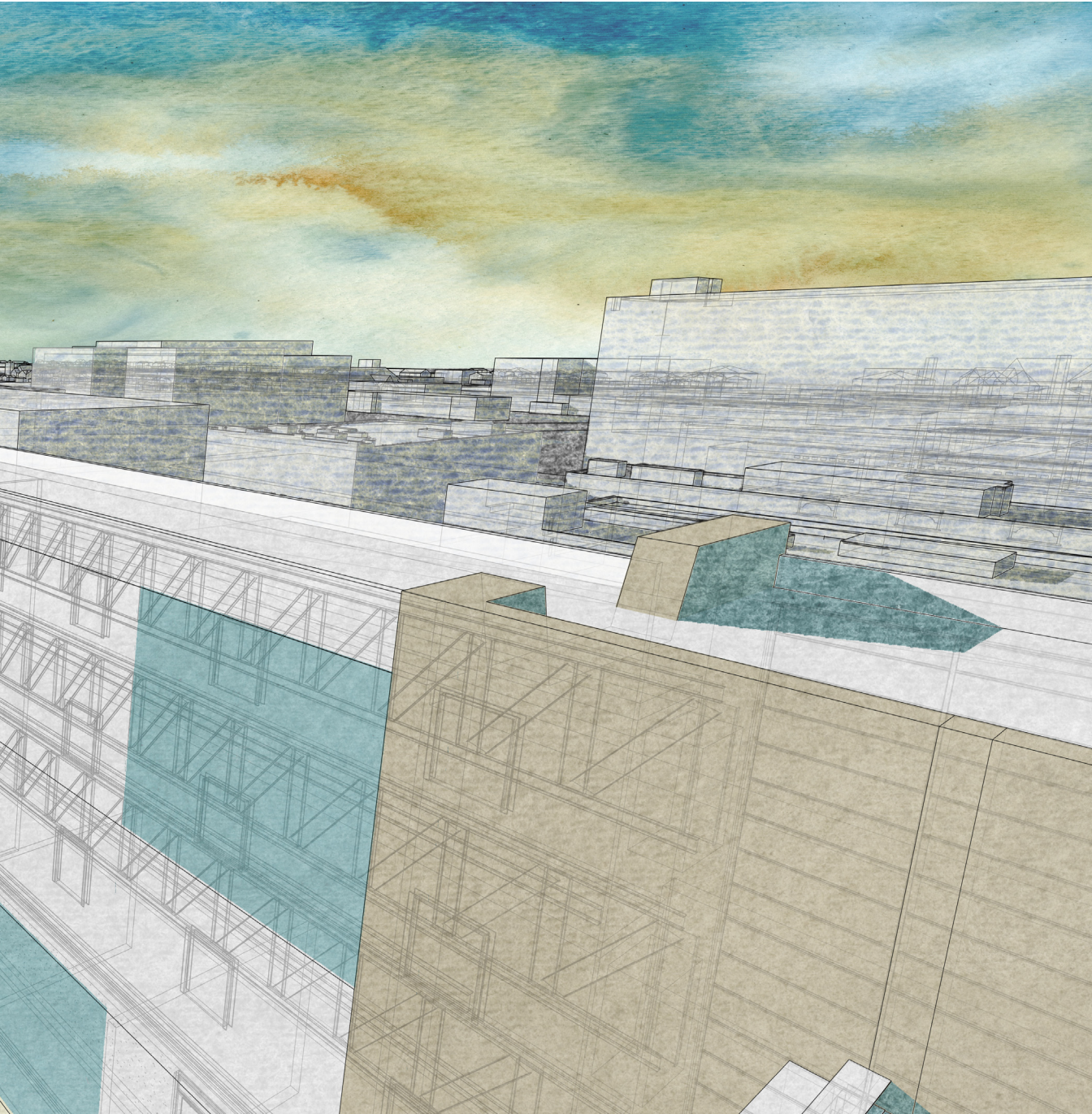
model documentation	140
project installation	144
final presentation	148

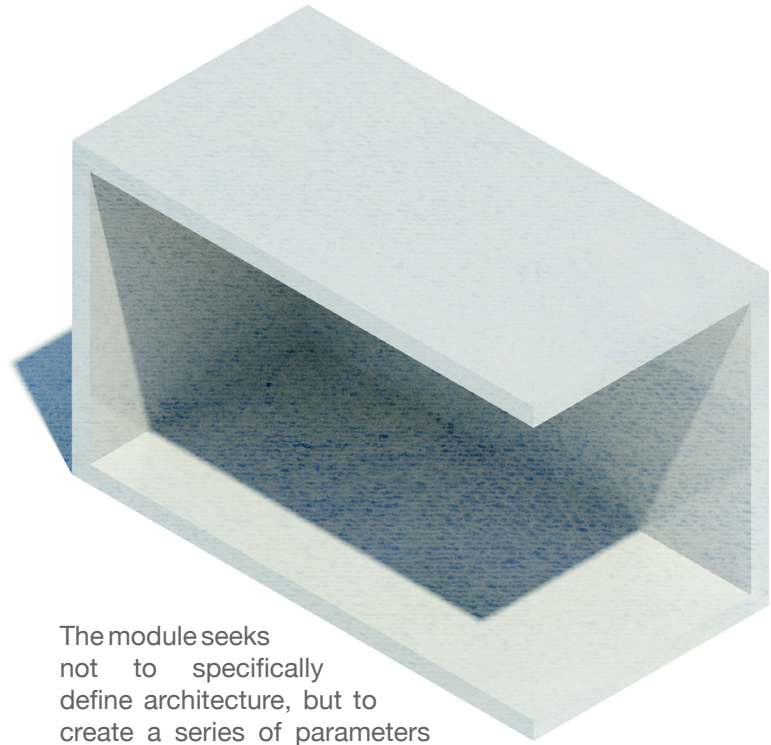




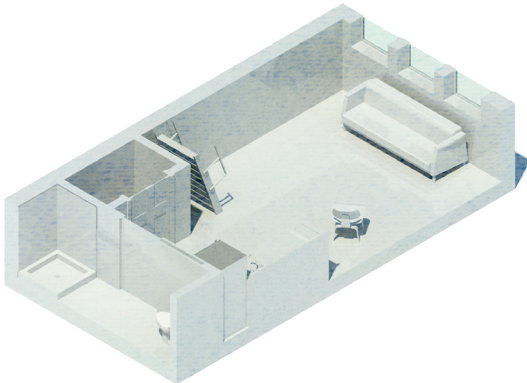
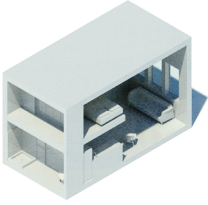
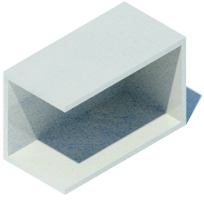
So just to be clear, is the goal of the project to just do one building right or change the system?  
—Mike Christenson



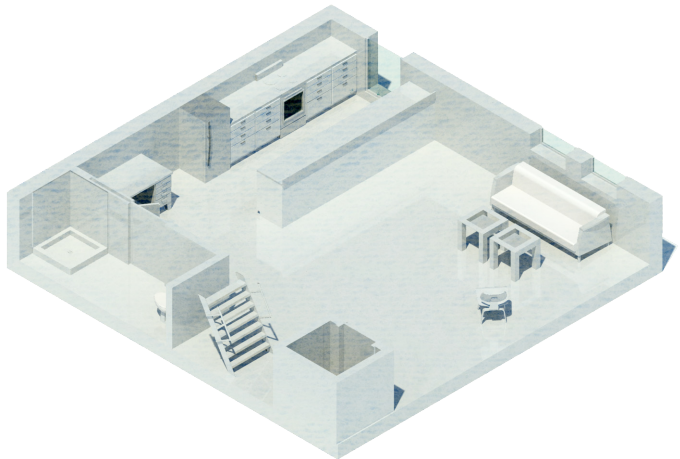
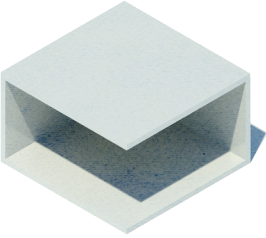
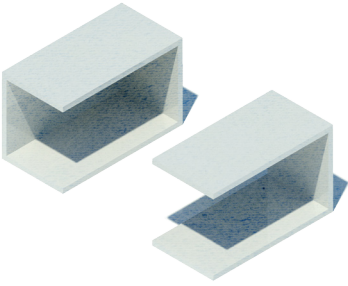




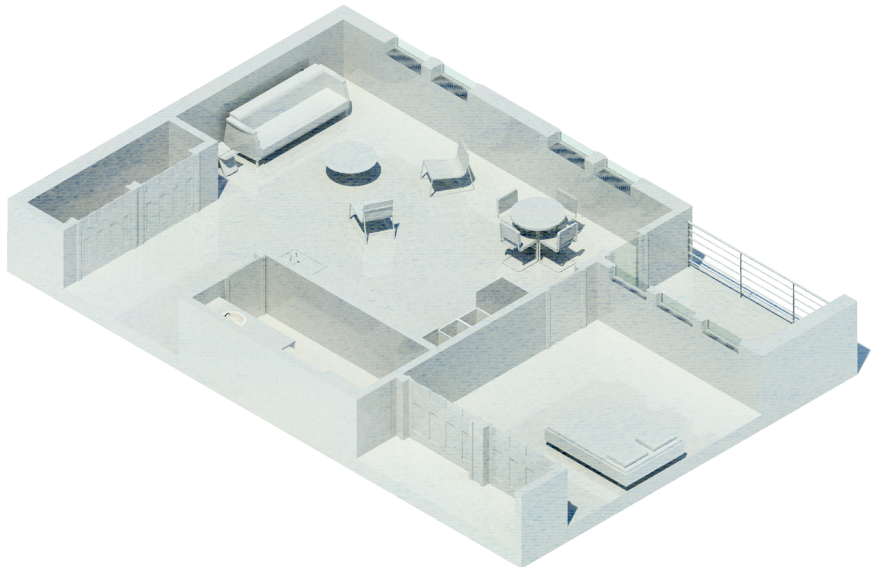
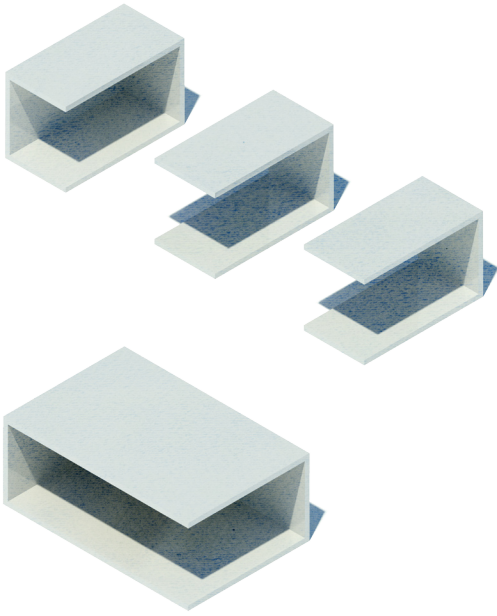
The module seeks not to specifically define architecture, but to create a series of parameters in which we can design spaces which are unique to the user. The module's proportions are based on greater proportioning systems. A 15' height allows just enough room for cross ventilation and a lofted space. A 12'6" width and 25' depth allows for implementation on the 25' urban lot that is a standard in many US cities and enough space (276 sq. ft.) for basic amenities. The following arrangements and spaces represent a possibility of how the space could be used and not the definitive answer. The first three arrangements depict dwellings that could be integrated into . The fourth example shows the units in a single-family dwelling situation. The form of the circulation is not specified, allowing a greater range of possibilities for site, client or use specific designs.

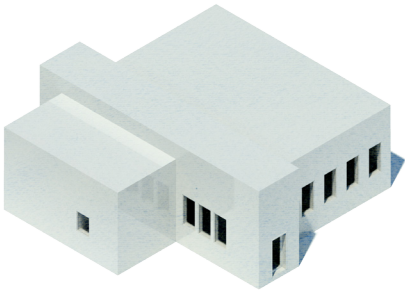
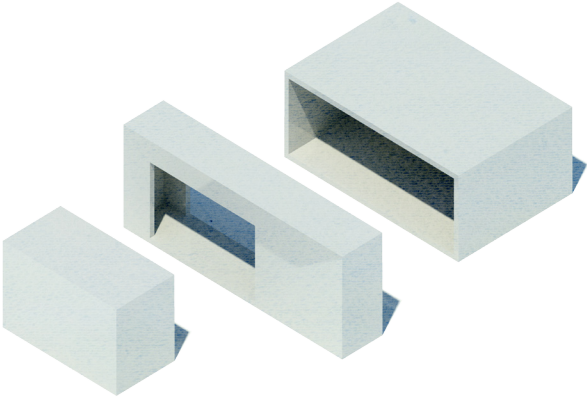
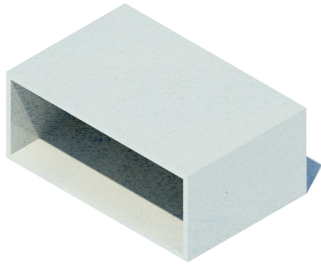
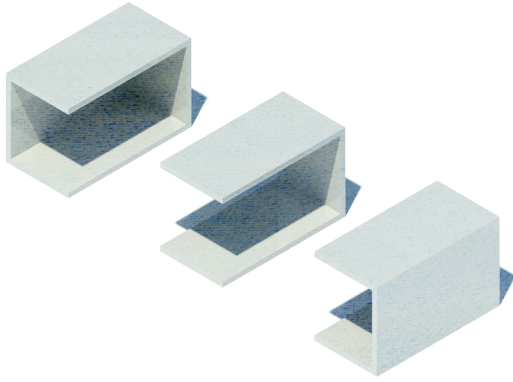


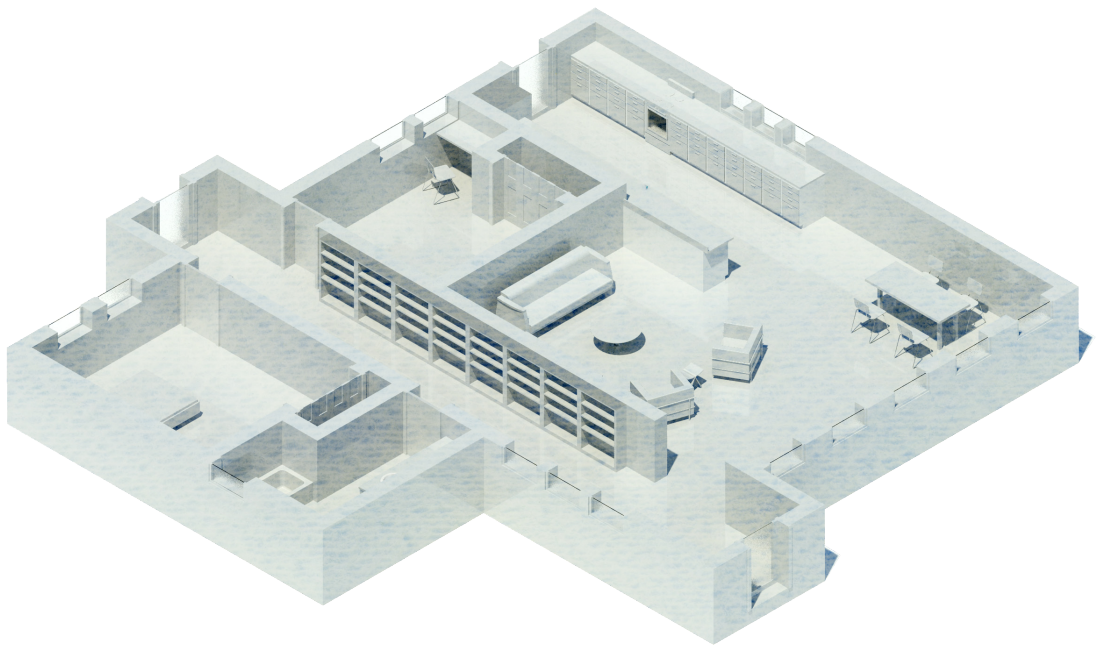


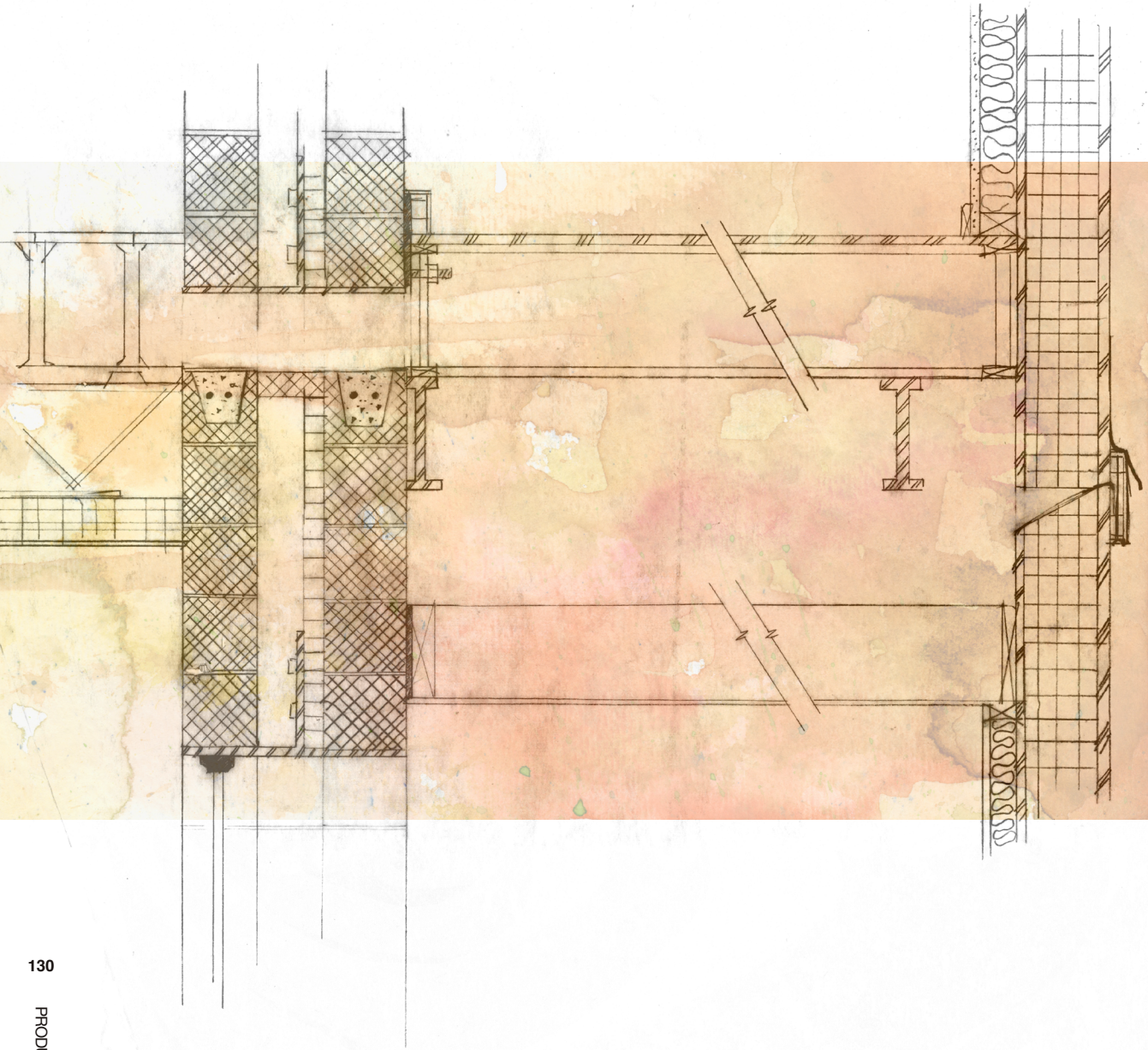




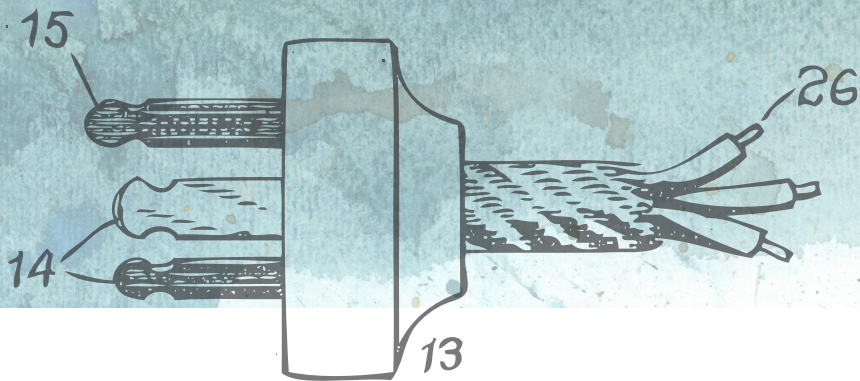
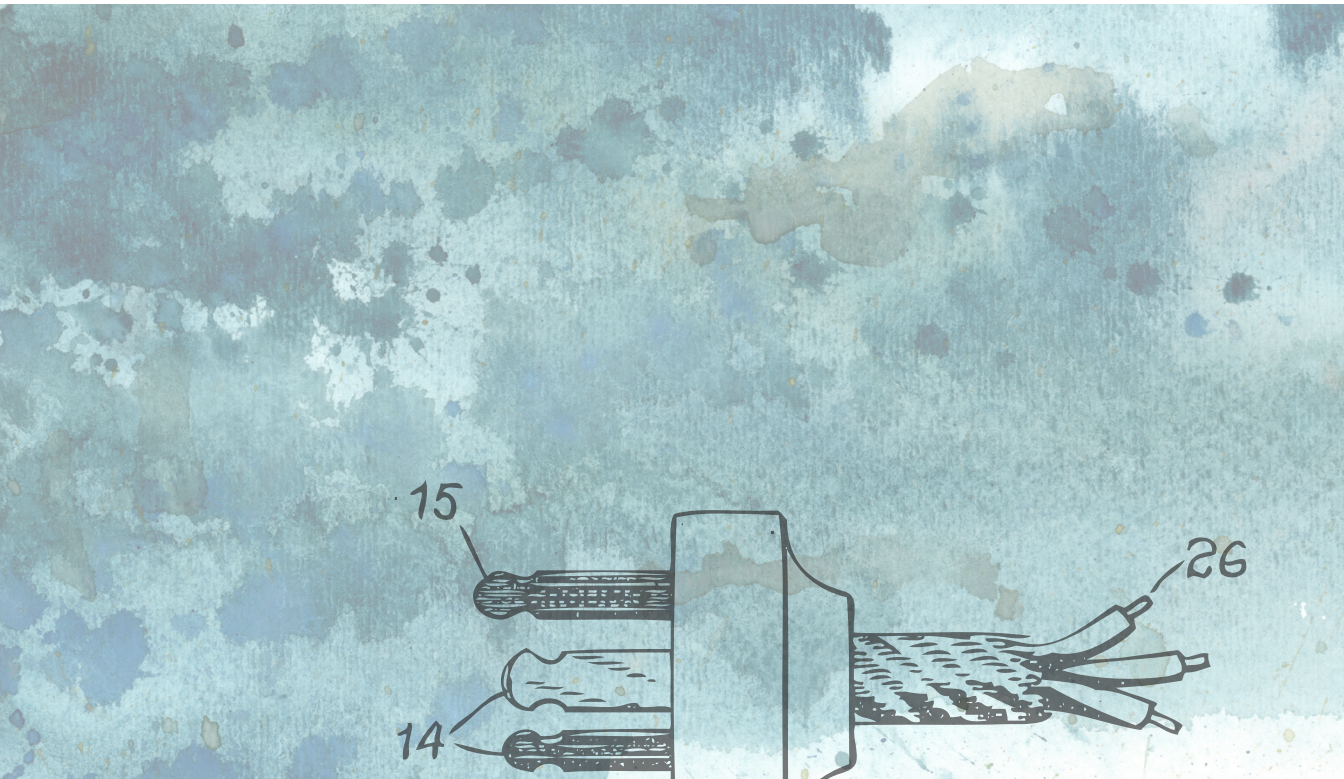










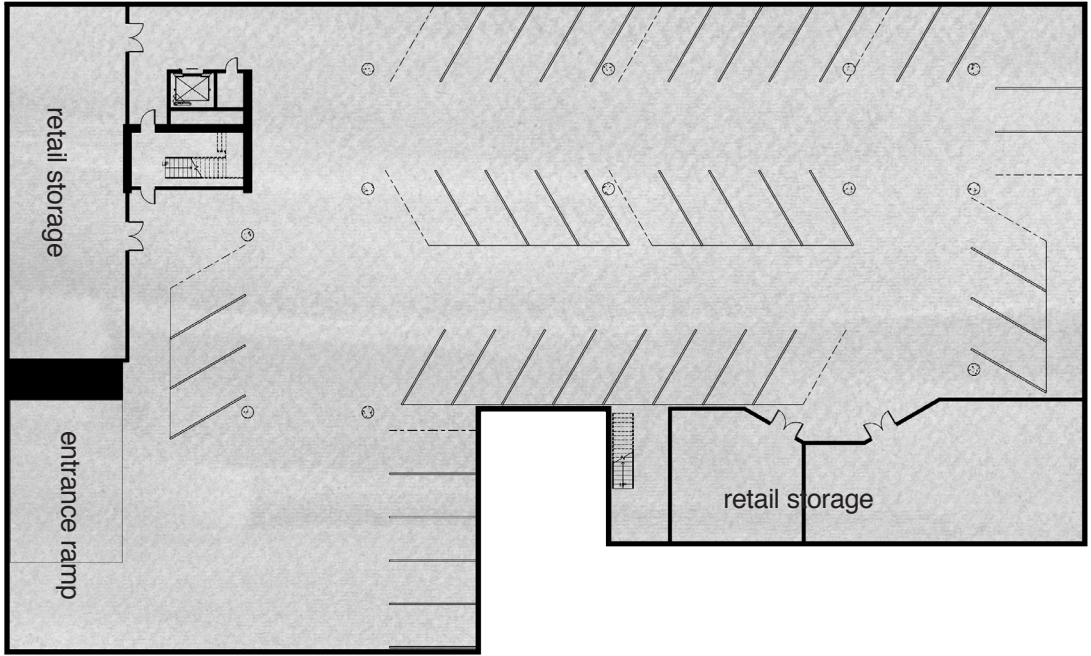




SITE PLAN

100'





BASEMENT LEVEL PLAN

25'

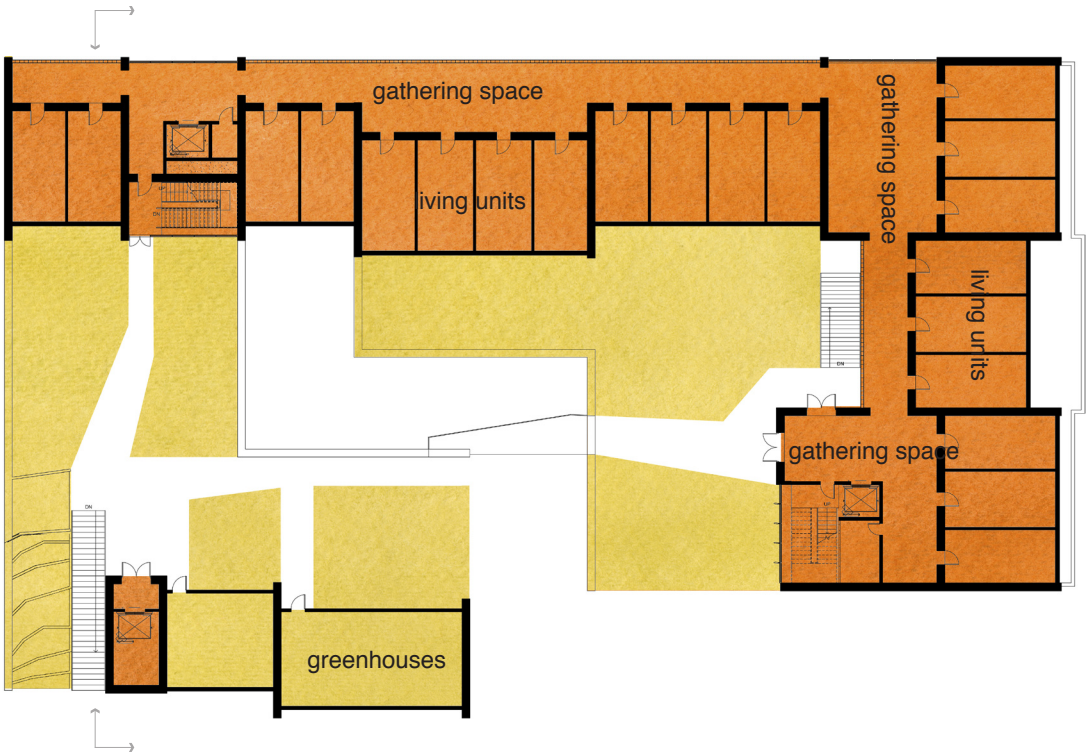


 HOUSING FUNCTIONS

 TRADE SCHOOL FUNCTIONS

 GREEN SPACE

 RETAIL AND PARKING RENTAL

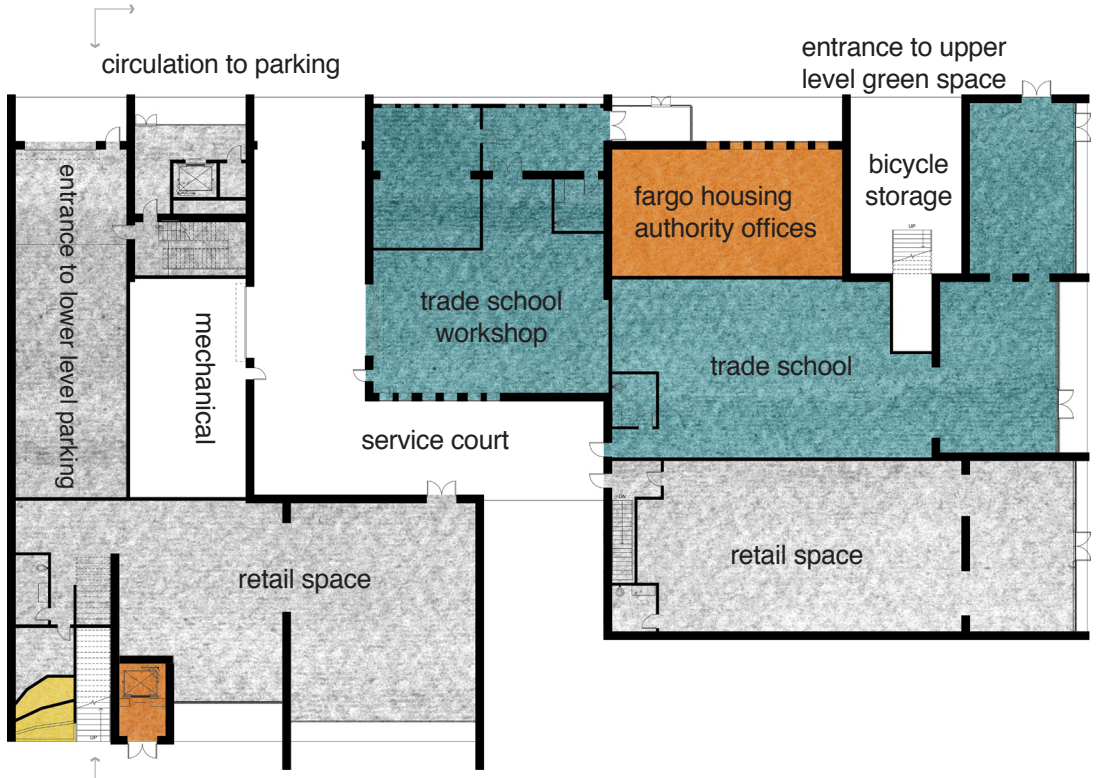


SECOND LEVEL PLAN

25' 

- HOUSING FUNCTIONS
- GREEN SPACE
- TRADE SCHOOL FUNCTIONS
- RETAIL AND PARKING RENTAL

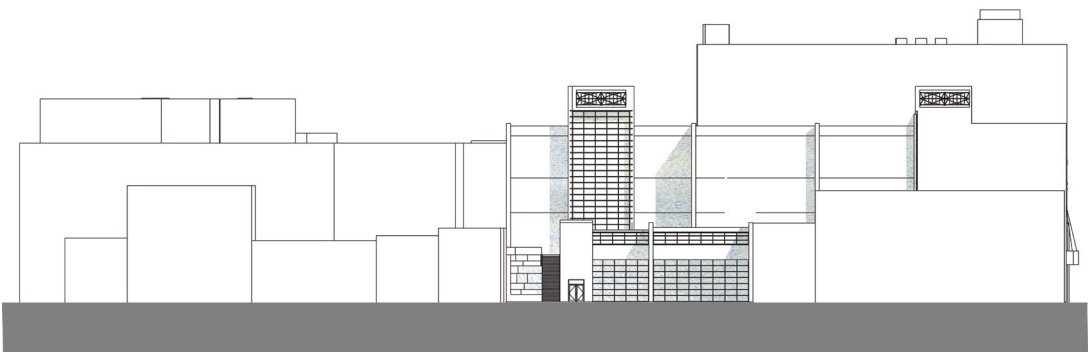
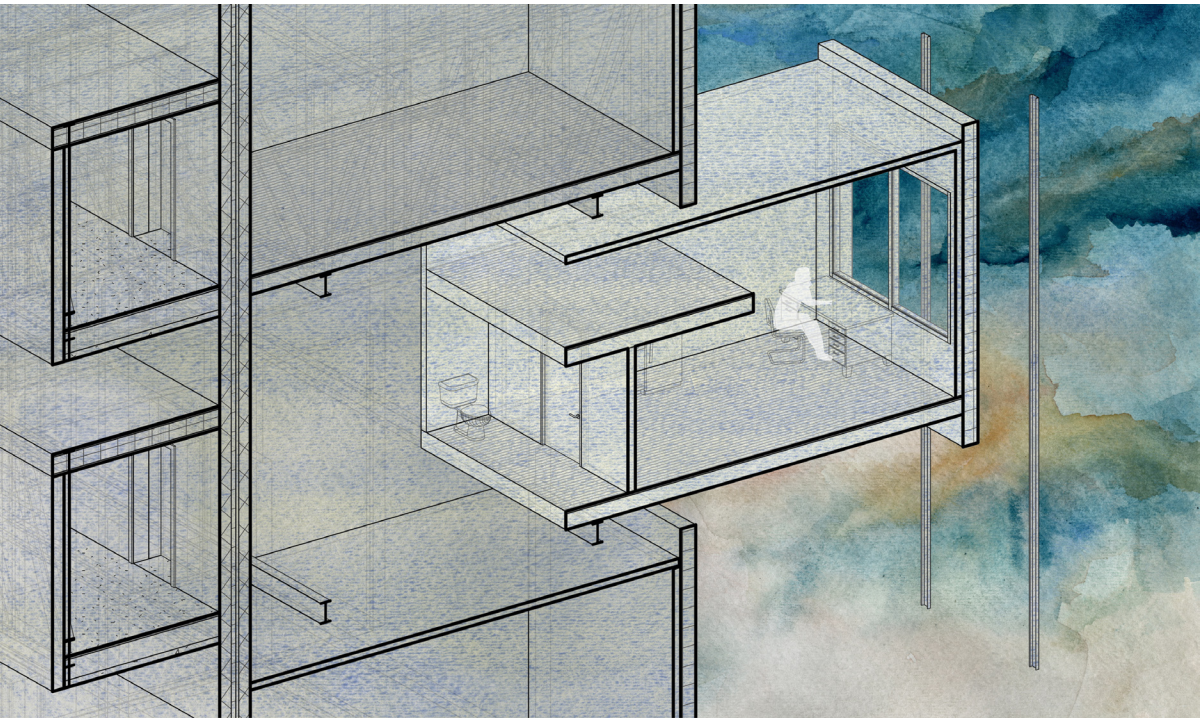




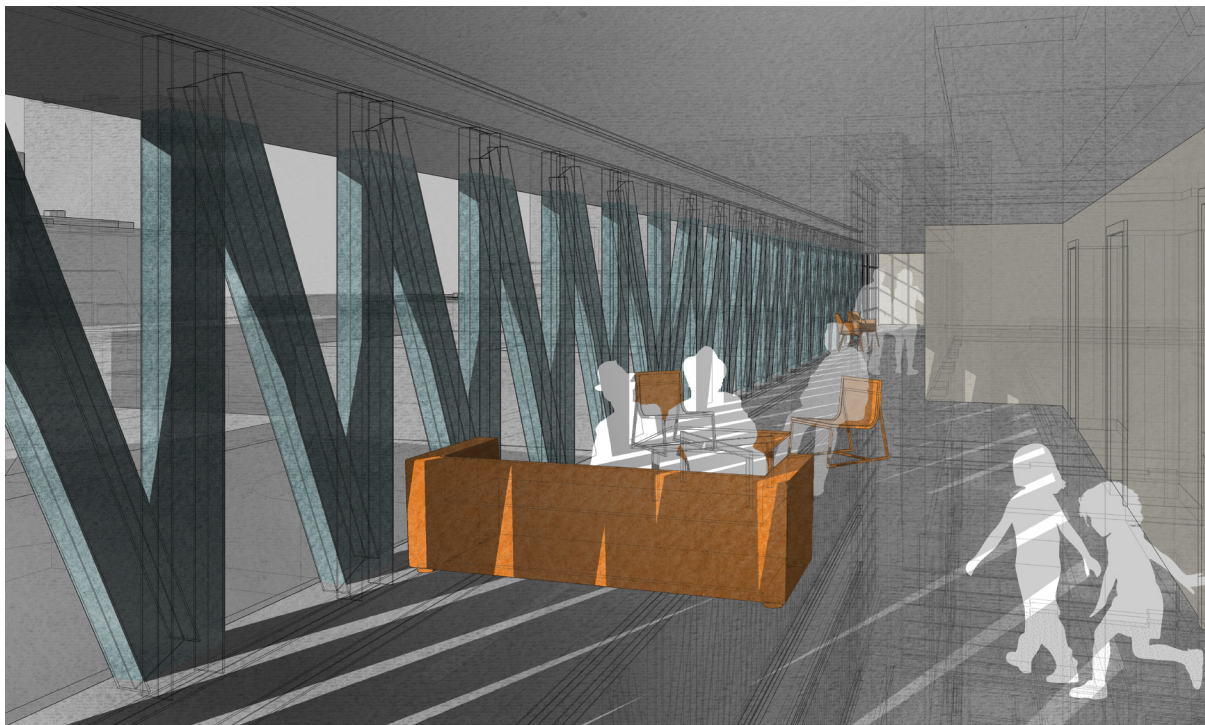
GROUND LEVEL PLAN

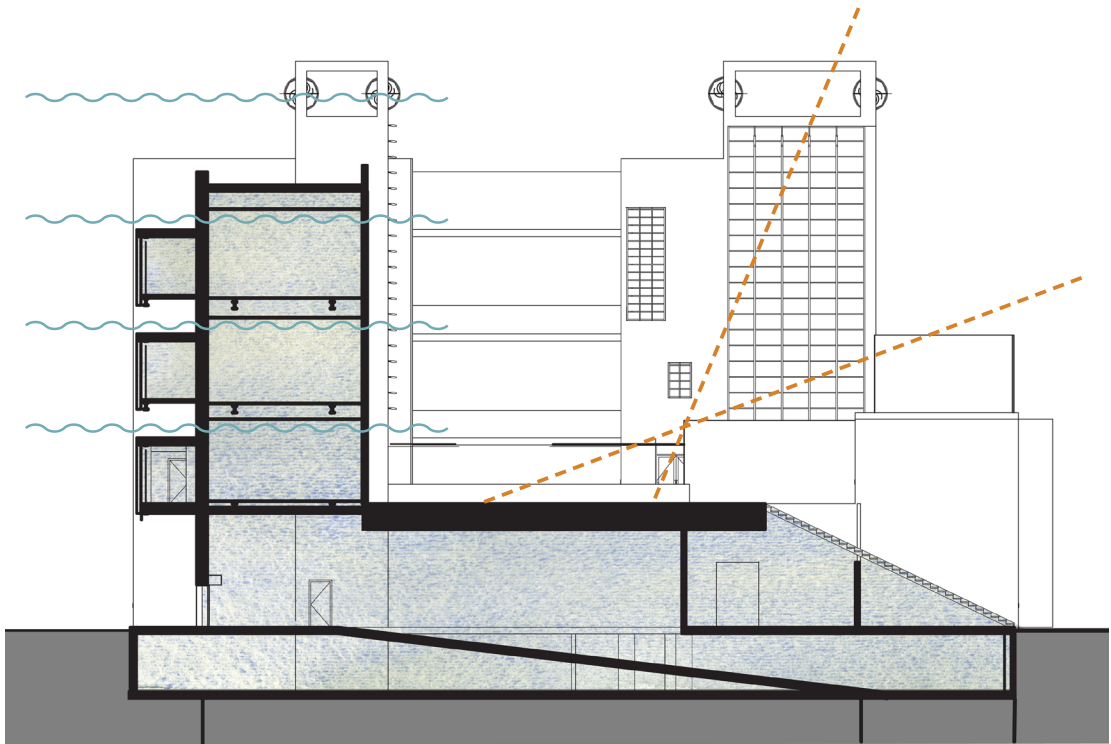


- HOUSING FUNCTIONS
- TRADE SCHOOL FUNCTIONS
- GREEN SPACE
- RETAIL AND PARKING RENTAL

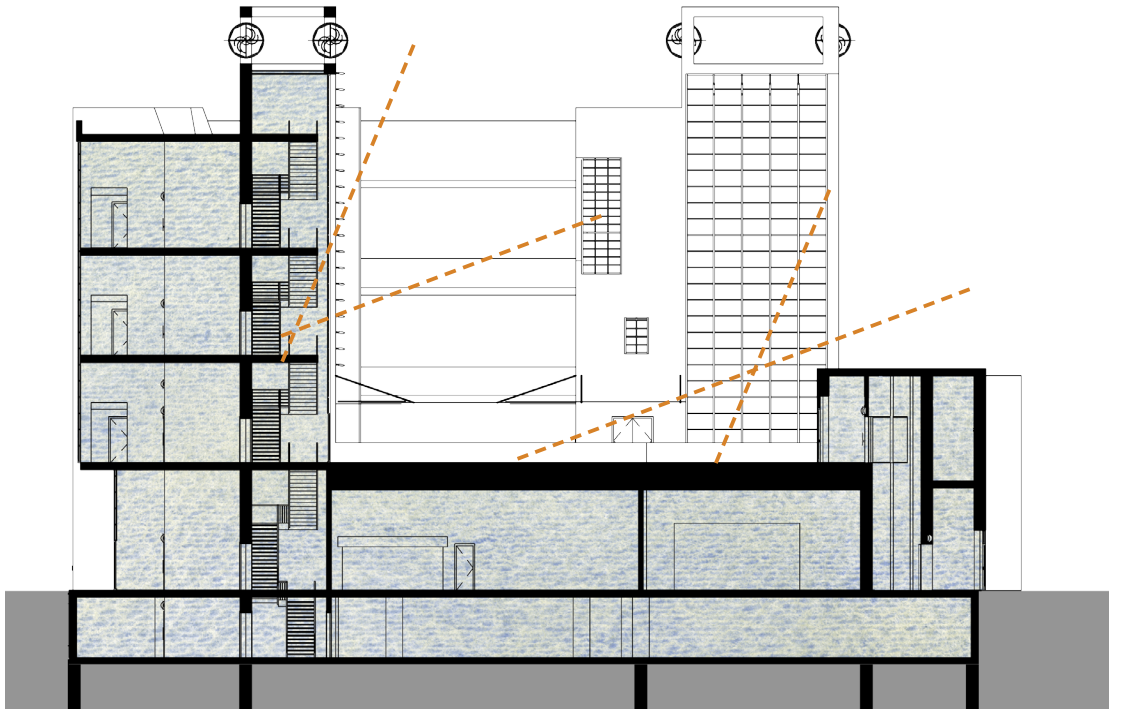




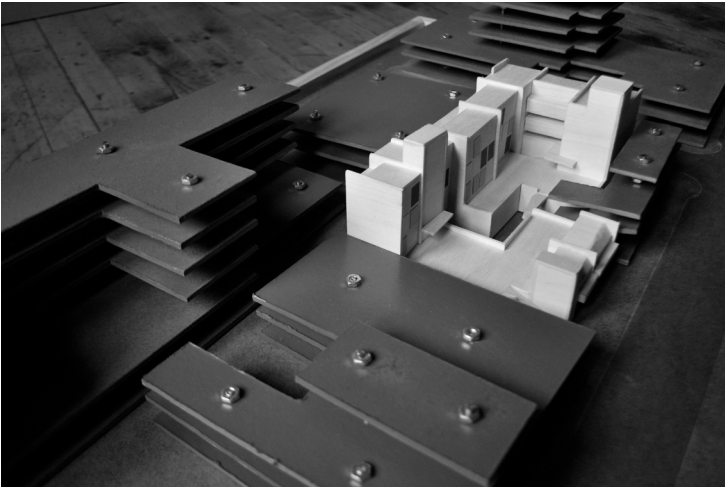
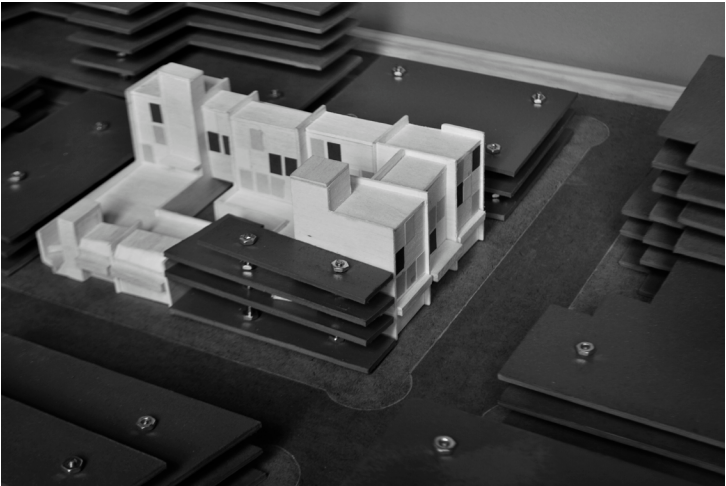


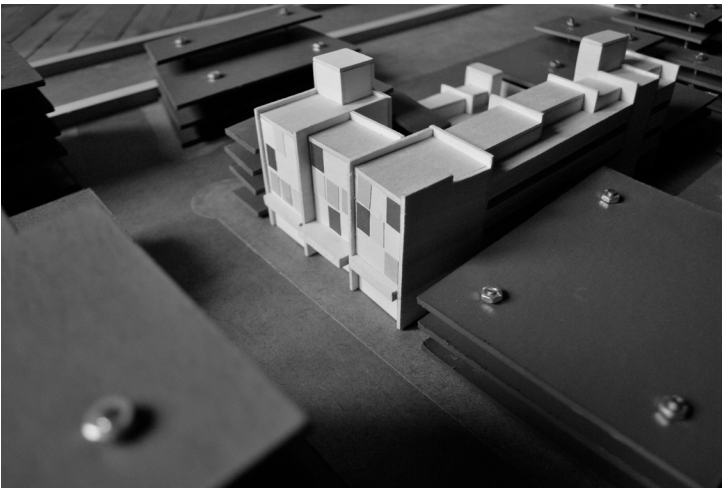
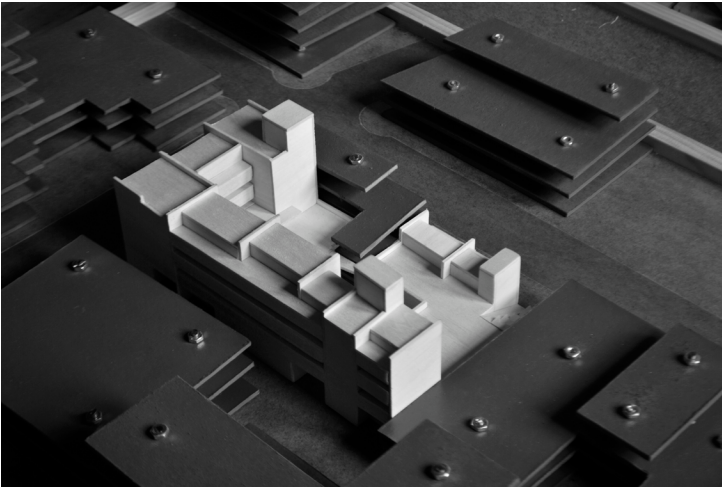
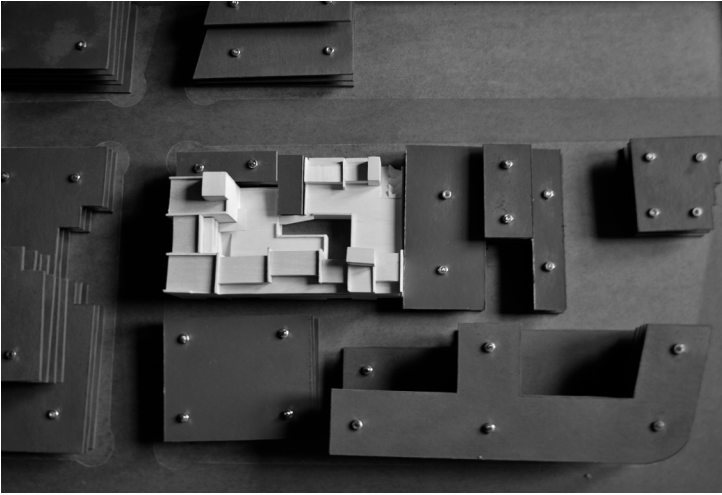


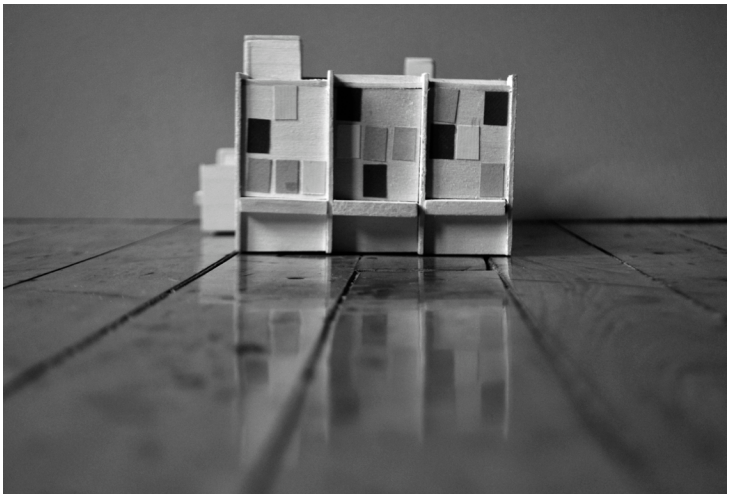




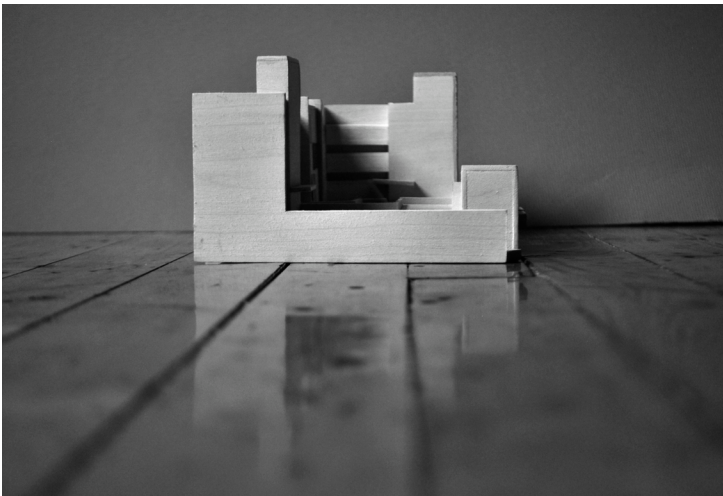
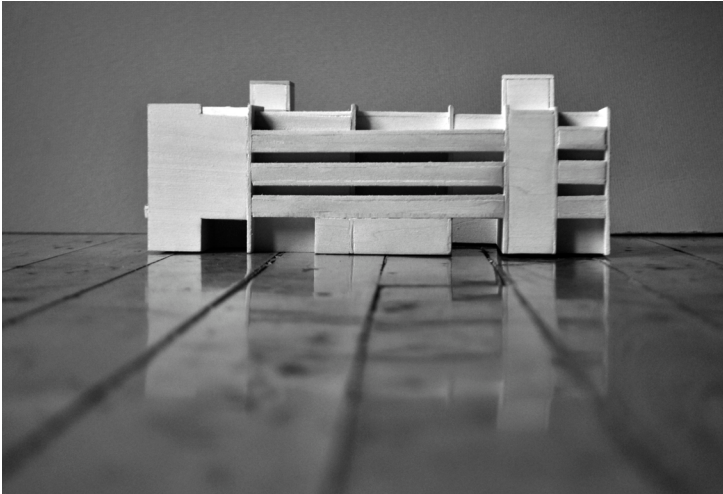
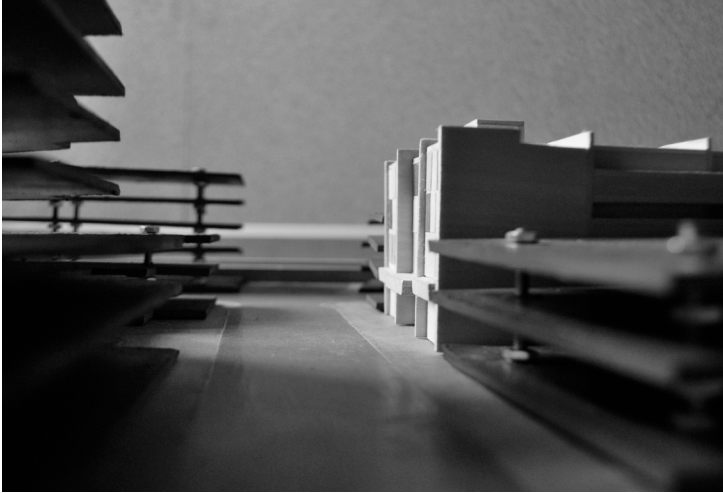
# MODEL DOCUMENTATION









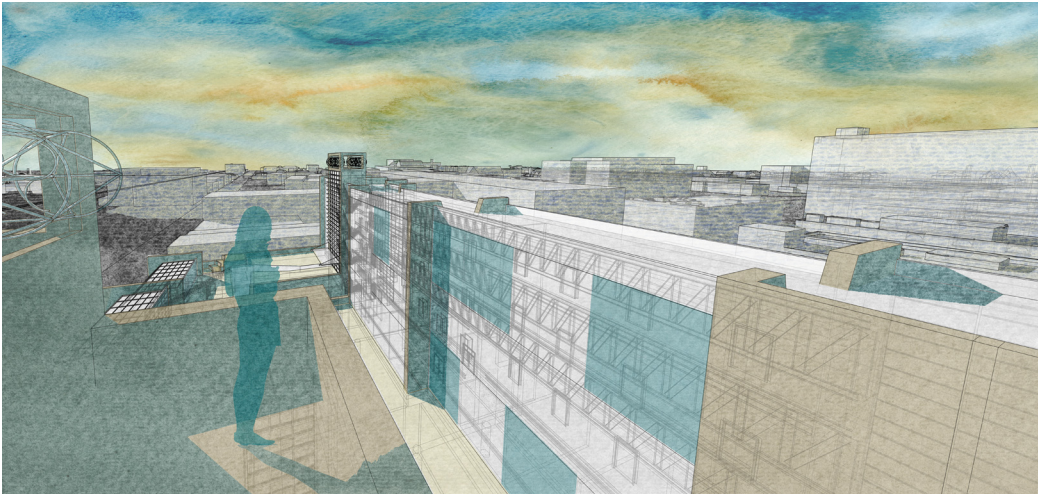


# PROJECT INSTALLATION





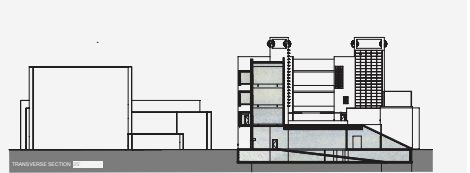
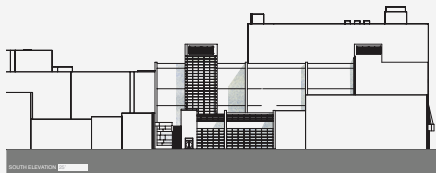
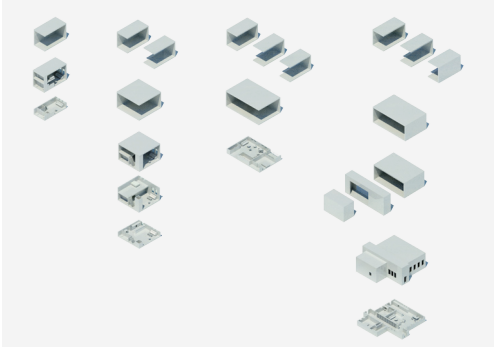
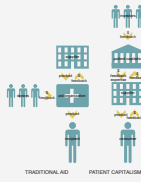




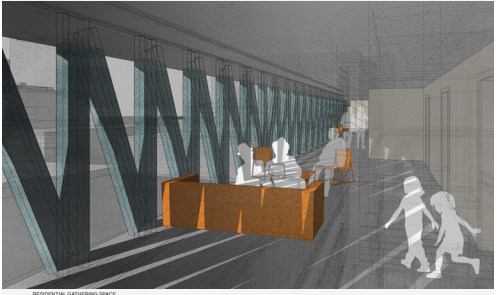
### FARGO HOUSING COOPERATIVE

Change within culture comes through economic dynamism. Through forces of supply and demand the market is used as a forcing factor, creating a space to be tested or more delicately tested in the hands of a client. Within the market of social housing, the case design and business model are being questioned by the impact of the aid and organizations were not the a business through a great number of public, creative, accessible and sustainable business models could be created to serve the poor, while allowing these enterprises the dignity of creating, choosing their effect and time.

In the United States are controlled by the government and its agencies, resulting in knowledge that is able to respond to the current or changing needs of the population that it was meant to serve. In architecture is to allow for the social change, residential and public buildings, it must identify viable opportunities to respond to the changing economic and community economies with different models of housing.

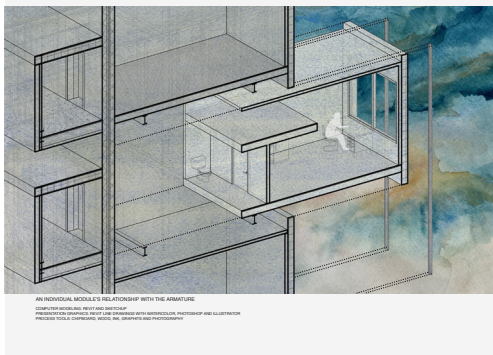
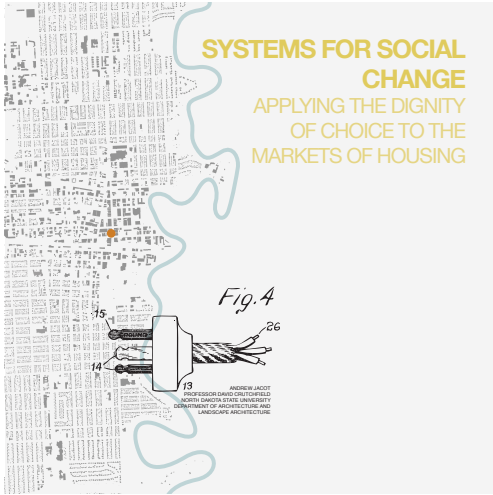


A VIEW SOUTH ON BROADWAY THE NEWEST MODULE IS DELIVERED AS BYSTANDERS GATHER



RESIDENTIAL GATHERING SPACE





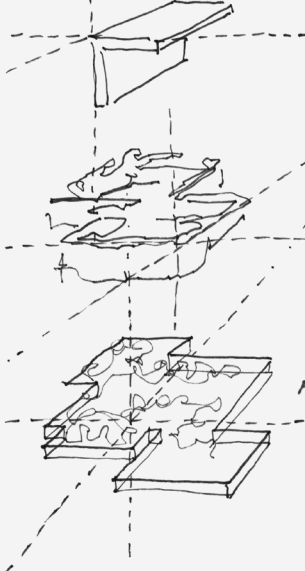
# FINAL PRESENTATION

This thesis was presented on May 2, 2011 using the slides on the facing page. The notes below were taken during the presentation by Thomas Erickson.

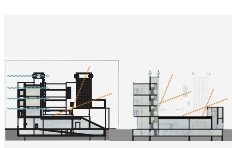
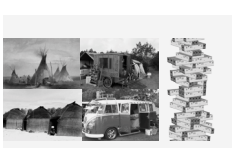
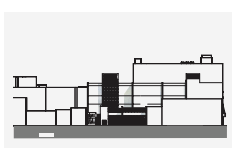
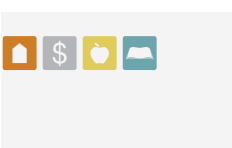
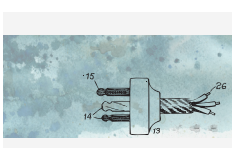
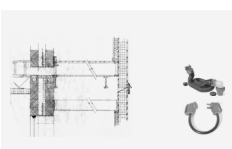
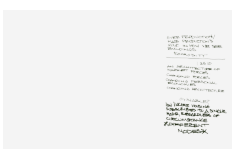
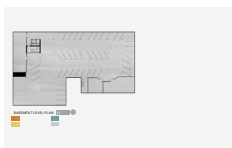
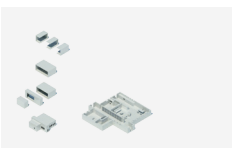
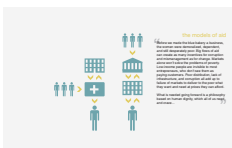
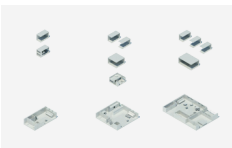
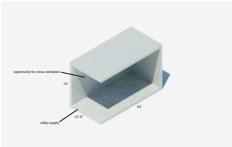
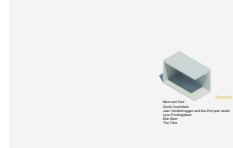
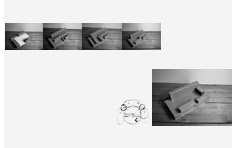
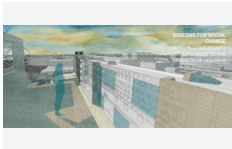
5. 2. 2011 ~~\_\_\_\_\_~~ 2-3:30 PM

**ANDREW JACOT** "systems for social change:"

A DAVID CRUTCHFIELD applying the dignity of choice to  
 C HEATHER FISCHER the markets of housing"  
 C JOAN V  
 C PAUL GLEYE  
 C MEGAN DUDA



HF- I appreciate your back alley  
 DE- how will it be individualized  
 AJ- "I think everyone has that special space - that place that no one else has."  
 PG- How flexible is the system? How might it be arranged?  
 MD- You left your renderings intentionally spare so we could fill in the blanks. Did you dream at all about what it might look like?  
 MARIA - aren't you doing the residents a favor by making design decisions for them?  
 AJ- In this instance the architect could be used also as an educator - the intent is not to remove the architect from the system.  
 AJ- "I think these projects really take on a mind of their own."  
 DC- "As architects, what point do we stop controlling things? as architects do we design silverware?" "When do we let go?"  
 PG- How much does your thinking architectural thinking overlap with engineering thinking?  
 PG- How would people live in this? You haven't shown me people living in this.









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## QUOTE

“go, look, do.”



# THANK YOU

## FOR THEIR ONGOING SUPPORT

Mom, Dad, Gina and Dan

## FOR THEIR EDUCATION AND INSPIRATION

David Crutchfield

Joan Vorderbruggen and the Architecture Class of 2014

Mike Christenson

## FOR THEIR ASSISTANCE IN COMPLETING THIS PROJECT

Nicole Crutchfield  
Planner, City of Fargo

Don Faulkner  
Professor, North Dakota State University

Roberta Feldman  
Professor, University of Illinois at Chicago

Lynn Fundingsland  
Executive Director of the Fargo Housing and  
Redevelopment Authority

Bob Stein  
Senior Planner, City of Fargo





tribe.

