HARD + SOFT ARCHITECTURE

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ABSTRACT

It has been argued that a Post-Fordist economy is a reaction to "shifting commodity markets, increasing electronic control production and communication, and increasing global capital markets,"[1] which has created "globalization" that is evident in every culture. Cultures are melding together as technology and transportation reduces the distance of travel and communication. "Changes in manufacturing and production, modes of communication and transportation have resulted in the dispersal and relocation of industrial production to outlying areas and beyond."[2] The result has been that corporate America has largely outsourced the manufacturing of products. Many cities that once were manufacturing capitals bear the physical evidence of this shift; de-industrialization has left behind remnants of a declining economic model. The once vibrant communities supported by these industries have been left behind and forced to fend for themselves; creating bartering subcultures and alternative economies to support the necessities of living, not to mention the physical wasteland left in the wake of the decentralization of our manufacturing base.

This thesis seeks to investigate these cultural transformations with a desire to create an authentic architecture that connects an evolving culture. This thesis investigates the opportunities presented by post-industrial landscapes such as Muskegon, MI as a medium to foster a grassroots organization by serving as a conduit for advancing the success of the entrepreneurial spirit. The grassroots organization will replenish the de-industrialized wastescapes with an independent concentration of employment and economic production.

1 Stalking Detroit "After Ford" Patrick Shumacker and Christian Rogner
Publishing by Actar Barcelona, 2001

2 Drosscape Wasting land in urban America
Alan Berger

THESIS

The world of work today and in the future is nothing like it was just a decade or two ago. There are major changes that are reshaping the economy. These include globalization, technological advances, new telecommunications and information systems, growth and decline among job sectors, and government agendas; with a result of an expanding interest in entrepreneurship. How does architecture respond to the changing economic, cultural and physical circumstances? Is there an opportunity for specific architectural question to be explored as a reflection of these changes in the socio-economic landscape?

This thesis seeks to investigate cultural transformations with a desire to create an authentic identity through a tectonic presence that connects to an evolving place and changing culture in this case as a result of a global market and changing economy. This implies the necessity of exploring an architecture that emphasizes the unique characteristics of a region. In addition, the dynamic changing world economy necessitates the need to develop an approach to architecture that allows it to fluctuate in response to particular regional situations.

Globalization and Architecture

The industrial revolution created the pressure for plants to capture the benefits of economies of scale (how much it costs) by technology it created. Cheap energy, good transportation networks, and new production technologies began to restructure capital-intensive industries. Plants started to create large batch or “continuous-process technologies” to achieve low cost volume production.
However, in many industries, such as “chemicals, automobiles, airframes, electronics, and oil refining, production at scale-economy volumes often exceeded the sale levels that individual

companies could achieve in all but the largest nations, which pushed them to seek markets abroad." In less capital intensive industries, even companies that were largely unaffected by scale economies were transformed by the opportunities of economies of scope that were opened by more efficient, worldwide communication and transportation networks.

Even labor-intensive local industries, such as office cleaning and catering, are not immune to the forces of globalization. For example, ISS, the Danish cleaning services company, has built a successful international business by transferring practices and know-how across countries and offering consistent, high quality service to its international customers. Sodexho, a French company, has adopted a similar approach in the catering and food service industry and has become highly successful on an international basis.

Globalization could be seen as a concept that literally means international integration, whereby the people of the world operate together in a single society. This cuts across every aspect of life which includes economic, technological, political and socio-cultural perspectives. The International Monetary Fund describes globalization as "a historical process, the result of human innovation and technological progress which refers to the increasing integration of economies around the world, particularly through trade and financial flows."[1] The two major forces driving globalization have been the search for expanded markets and efforts to reduce costs. People no longer have the barriers of national borders obstructing them in their organizational operating boundaries.

Globalization, as a term, is very often used to refer to economic globalization, which is the integration of national economies into the international economy through trade, foreign direct investment, capital flows, migration, and spread of technology. This makes every type of organization aware that they are posed with expanded competitors of local, national and foreign counterparts.[2] Prior to globalization, most firms were free from pressures from foreign competitors

1. www.imf.org/external/np/exr/key/global.htm
2. www.imf.org/

and their market was also limited within the nation. The market in some areas grew more saturated than others and labor was much cheaper in some places than others. This led to the search for expanded markets and efforts to reduce costs; the two major forces driving globalization. Many firms expanded operations beyond their national boarders to gain competitive advantage over their rivals.The effects of globalization are seen everywhere in the homes, workplaces, market, in the newspapers, business journals and architecture.

As a corollary to this broader economic trend, Many question the forces that are transforming global competition worldwide. For example, Theodore Levitt's classic Harvard business review article, "The Globalization of Markets" suggests that "the world's needs and desires have irrevocably homogenized," that "no one is exempt and nothing can stop the process," and that "the commonality of preferences leads inescapably to the standardization of products, manufacturing, and the institution of trade and commerce." Architecture in some ways has become homogenized in the sense that there is no longer an authentic distinction in regional architecture. Construction techniques and methods are the same everywhere with a few exceptions for building codes that may distinguish one region from another and some subtle local practices that still survive. Architecture is homogenized in the sense that materials and construction techniques come from anywhere on the globe. This sort of scenario is a direct response to the global competitive market. For example, a German company manufactures laminated glass that is used on a façade in Manhattan New York. How does the architecture distinguish itself from other regional architectures? It seems as if a building could fall out of the sky and drop into the urban fabric with no consideration for regional significance.

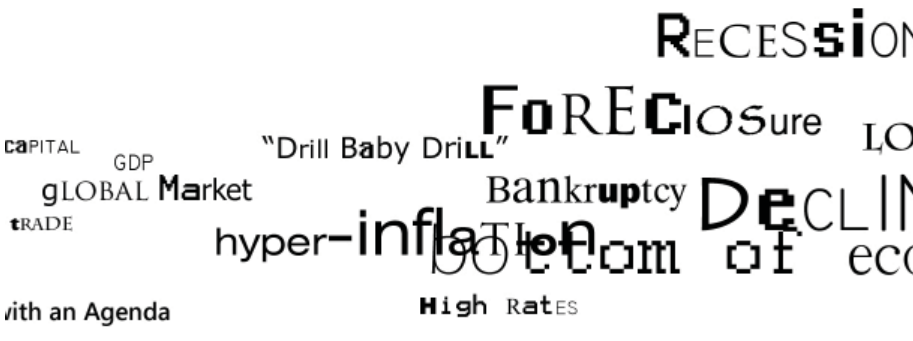
Kenneth Frampton, author of Critical Regionalism: Six points towards architecture of Resistance, argues that architecture is perceived as a commodity in which it is fashion or scenography. This comodification of shelter negates local identity

and expression. Frampton's critique offers an alternative, authentic architecture, based on two essential aspects of architecture: an understanding of place, and tectonics.[3] This thesis does not intend to resist the onslaught of globalization but instead hopes to investigate ways of embracing the radical changes that have affected our economy and built environment. Following Frampton, this thesis will attempt to utilize place and tectonics as a mechanism for embracing the global changes while simultaneously drawing out the unique characteristics of region that authenticates one place from another .

Economic Context: The spread of wealth: a larger gap in classes and the interest in the local for local business approach.

Our current national economy is in the worst condition than it has been in decades. Some describe this condition as the most dangerous financial shock since the great depression. Considering the current economic challenges, to understand where we are going we must understand how we got in this position in the first place. Paul Krugman, a Princeton professor and columnist for the New York Times and recipient of the 2008 Nobel Peace Prize in Economic Sciences recently wrote about our national economy under the Bush administration titled The Great Wealth Transfer. This is what Krugman describes as the biggest untold economic story of our time: "More of the nations bounty held in fewer and fewer hands" and the Bush administration has only made it worse. The concentration of wealth to the upper class has put large amounts of money in fewer hands and as a result the middle class is struggling with fewer funds for consumption. When

3. Frampton, The Anti-Aesthetic pg 48



this happens the economy is negatively affected and the separation of classes causes an expansion in the lower classes.

Bush has made sure that the rich pay lower taxes than the middle and low class. “According to the latest estimates, once the Bush tax cuts have taken full effect, more than a third of the cash will go to people making more than $500,000 a year -- a mere 0.8 percent of the population.”[4] It’s worth noting that Bush doesn’t simply favor the upper class: It’s the upper-upper class he cares about. This became clear in fall 2006, when the House and Senate passed tax-cutting bills. The Senate bill was devoted to providing relief to middle-class wage earners: “According to the Tax Policy Center, two-thirds of the Senate tax cut would have gone to people with incomes of between $100,000 and $500,000 a year. Those making more than $1 million a year would have received only eight percent of the cut.”[5]

This has ramifications for the issues of globalization, as there is already a tremendous

4. Krugman, The Great Wealth Transfer. pg1
5. Krugman 2

growing inequality in terms of separation classes. Why don't the individuals on the verge of falling into the low-class sector get an education? But the education is not the issue. Those restricted by government regulation don't have the opportunities to create a financial stronghold. Globalization is political. Giant service sector corporations such as Walmart have created a dramatic decline in wages and benefits to compete in the global economy. Krugman notes that education is not the issue; Hedge fund managers have post-graduate degrees just like high school teachers. The hedge fund managers gross the equivalent of all 80,000 teaching positions in New York City for three years. Krugman suggests that we are living in an economy that is catering to the elite. If you look at the companies that are doing well such as Nordstoms, they are doing well because of the elite spending. So while this is all occurring what is happening to those in the dying middle class?

In the information-based, knowledge-intensive economy of the 21st century, entities are not only competing only in terms of their ability to access new global markets and cost factors but also working to respond to local needs. Today the challenge for these global competitors is to build transnational organizations that can operate on a local for local approach. Most global companies are not meeting the local needs of a region. The problem with the global organizations is that few meet the social needs in emerging and existing markets. There is a sense of tension and anxiety about the operations of multinational organizations. There has been a large concern over the corrupt and exploitive acts such as human rights abuse, labor standards, and the environmental irresponsibility that these organizations have displayed. These have caused consumers to reject or refuse to buy from global companies for fear of supporting these operations. As a result, there has been a change in consumer behavior with more focus to "buy local" or support local business operations.

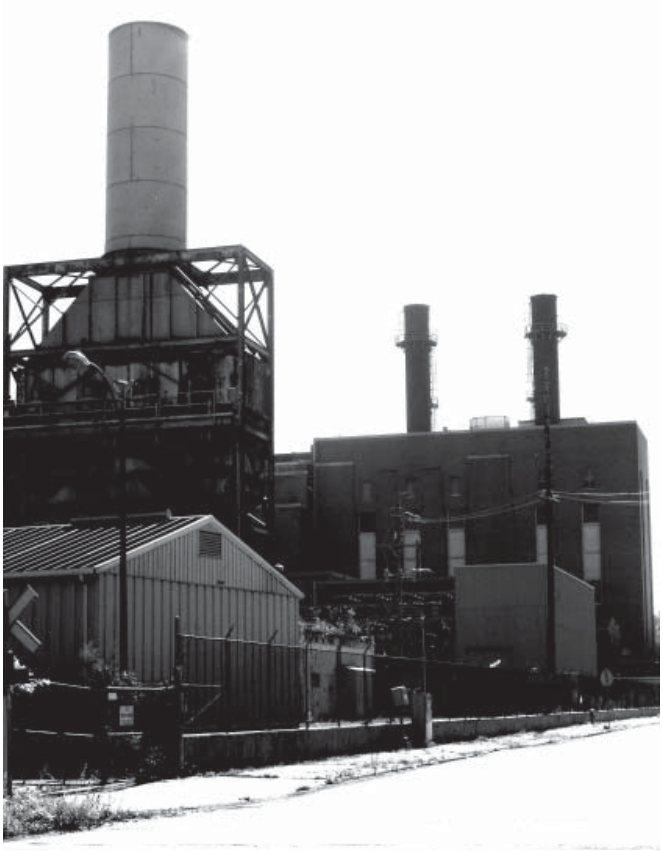
With the shift away from heavy industry to a smaller and more nimble business model

as a response to the international business approach, small organizations are capturing these local needs. We are now in an era "when speed, transparency and local sensitivity has become absolutely essential." Small business entrepreneurs are capturing the needs of local economies by providing local services. Those displaced individuals who previously held blue collar jobs are operating on the entrepreneurial spirit to capture the needs of their regions.

Physical Context: De-Industrial Wastescapes

"We are shifting not out of industry into just services, but from one kind of industrial economy to another"

-Stephen Cohen and John Zysman, Manufacturing Matters: The myth of the Post-Industrial Economy



As a result of the changing economy, many mid-western cities are loosing industrial production to outlying areas and beyond. The remnants from a previous economic past are evident throughout post-industrial cities. There are two terms that must be understood to in order to discuss the forces that have impacted and scared these cities, Fordism and Post-Fordism.

Fordism is a category of socio-economic results that stemmed from an industrialization system developed by Ford: The system could reproduce its own market in a self-fulfilling prophecy of economic expansion.[6] Post-Fordism: as a response to the economic crisis in the late 60's and the deepening recession of '74, technology and mass communication increased global capital markets. Organizations restructured to compensate for the change in markets.

The term "Post-Fordism" is used to describe the devastated, overburdened city as a result of the once proud origin of modern industrial development. Detroit is a prime example; it is the origin of Ford's system of total social reproduction. As a result the city suffers from urban ills and failures. But this term is also applied to other cities caught in global economic restructuring. Post-Fordism serves as a foundation for understanding the undervalued landscapes as a result of deindustrialization.

6. Shumacker, Patrick. Rogner, Christian.

With this in mind, changes in manufacturing, production modes of communication and transportation have resulted in the dispersal and relocation of industrial production to outlying areas. According to Alan Berger, author of Drosscape: Wasting land in America, "Deindustrialization creates waste landscape through the attrition of industrial landscapes and buildings in older parts of the traditional central city."[7] Adaptively reusing this waste landscape figures to be one of the twenty-first century's great infrastructural design challenges as these sites are potentially transformable into new productive uses such as permanent open landscapes or infill developments.[8] According to Allen Scott, professor of geography at UCLA, the geographic ramifications are very different from Fordism. "The cities economic base is made up of industries that need to "agglomerate" in districts outside the city core. Agglomerations are built-up zones outside a traditional central city or town area. It is a distinct center or cluster of production, where industries and enterprises share various advantages of geographic proximity (such as the ease of transporting goods, infrastructure costs, tax incentives) to act as an independent concentration of employment and economic production.[9]

As respective locations of economic production, the old central city and the new peripheral agglomerations share a regional relationship: they are active synthesizers of waste landscapes. The former integrates waste landscape through the attrition of the former industrial sites; the latter integrates waste landscapes through the accumulation of new agglomerations.[10] Alan Berger recommends that designers need to think of themselves as charged with identifying the undervalued and overlooked potentials of the urban region. Berger further suggests a move away from the heroic, modernist master planner toward the advocacy designer who engenders inventiveness, entrepreneurialism, and visioning.[11]

7. Berger, Alan. Drosscape: Wasting land in Urban America pg 53
8. Berger 54
9. Berger 54
10. Berger 57
11. Berger 241

With this in mind, identifying the wastescapes is the first step to re-programming underutilized sites. This will include re-using abandoned or vacant buildings and landscapes to facilitate re-programming space. This would not only replace an existing physical context but also introduce a new concentration of employment and economic production. These areas also tend to qualify for Brownfield tax incentives, renaissance zones, and other incentives for revitalizing sections of cities that are declining. Many areas fitting this description are located within traditional city centers that experienced deindustrialization and post-Fordist modes of production.

Cultural Context: The Entrepreneurial Spirit

The focus of this thesis is to support members of the low and middle classes that have received some level of secondary education as well as displaced blue-collar workers. In the new economy national borders are nearly meaningless in defining organizations operating boundaries. Technological changes stemming from the way information is created, stored, used, and shared have made the global market more accessible. However, job opportunities are available for knowledgeable workers at a local level and sectors of the economy are driven by small, entrepreneurial firms. To fill the void of our failed local economies like-minded people with the entrepreneur spirit search for an alternative to this challenging scenario.

Entrepreneurship is the process of initiating a business venture, organizing the necessary resources, and assuming the associated risks and rewards.[12] The downsizing of large corporations has displaced millions of workers. Many of these employees have taken the trauma of being laid off and turned it into a self-employment opportunity, frequently financed by an early retirement or severance pay. This has caused an American grey economy to emerge.

12. Robbins, Managing Today pg4

In many post-industrial cities such as Muskegon, MI there is a subculture that is emerging on the premise of the entrepreneurial spirit. This subculture is a group of individuals that are working together to provide each other a form of service or trade. Most of these individuals have been displaced by the recent economic downturn, and as a result are turning to other forms of generating revenue such as bartering, or offering services for income that often goes undetected by the IRS. Take for example, a motorcycle repair mechanic and a tattoo artist. Both of these individuals have the skills of their trade, yet do not have a place of employment or a large client base to sustain a small business. Both the tattoo artist and motorcycle repair mechanic collaborate and offer services to one another. Other individuals included in a similar scenario include landscapers, construction trades such as painters, carpenters, and electricians, and mechanics to name a few. Another form of the entrepreneurial spirit that fits into this scenario is the at-home business. There is evidence that suggests many individuals are actually operating out of their garage or basement. An example of this is beauty services such as manicures and pedicures performed from the home. Another form is at-home day care service, in which the owner transforms the residence to care for children.

But one has to question: to what extent does this subculture define itself? There are many individuals whom all offer some sort of service, but what is the limit for this group? Is this subculture defined by the limits of the displaced, blue collared workers? What about educated service providers such as lawyers, architects, and engineers who find themselves in similar situations? Do they barter services with one another? What about other educated entrepreneurs that have acquired the skills to offers services such as web design, performing arts, graphic design, writing and publishing, and marketing to name a few. How can an architectural response strengthen this subculture?

Why should architecture intervene with a subculture that seems to operate successfully on its own? People who are bartering or operating some form of business are not truly maximizing their full potential. For example, the entrepreneur that is offering manicures does not have the full clientele to operate successfully. The space within the home does not meet the requirements for equipment and amenities required for a successful operation. The home business is simply a substitute to generate revenue for "just getting by". This individual operates at a bare minimum with only the tools and resources for limited tasks. These types of business operations are limited by the confines of the door to door and friends of friend's network. They are simply not operating at their full potential.

Entrepreneurs tend to lead an isolated existence, and face particular problems associated with it. As an entrepreneur, how do you get the upfront financing required for business operation? How do you break into new and emerging markets? How do you maintain your skills? What do people do if they can not afford retail space? Most of the discussed entrepreneurs in this particular subculture are limited in terms of technological resources. Most do not operate on the internet and they lack the skills and understanding to operate online. It is the intent of this thesis to provide the necessary and desired amenities such as information technology and resources. This will allow an expansion of the shared network which will facilitate partnerships and sharing ideas.

Hard + Soft Architectures

How can architecture strengthen and mediate the emerging subculture in Muskegon? The bartering and entrepreneur scenario sets the stage for the programmatic condition to take root. This thesis proposes Hard+Soft architecture as a response to these particular situations. Hard+Soft architecture hopes to facilitate dynamic changing economic context and physical landscapes. It is important to note that the emerging subculture requires more than a business plan to facilitate operation. It requires an architecture that fluctuates with the changing economic context.

Hard+Soft architecture is both a literal and conceptual term for the development of this thesis that responds to economic needs and political agendas simultaneously. This economic, cultural and physical scenario in Muskegon requires architecture to accommodate a fluctuating necessity.

Hard spaces are parts of the whole that are permanent and they provide a stronghold to attach soft spaces. Hard spaces are heavy and contain the necessary pieces that soft spaces can expand from. Hard spaces are the starting mechanism which enables growth. For example, a tree's hard space is the trunks and branches; they provide the nutrients and support for the leaves. The leaves can be understood as the soft spaces which attach to the branches. The biological clock allows seasonal changes to create a dynamic affect on the leaves. The biological clock can be thought of as a program for a building. The program responds to the dynamic changing scenarios that result from the global economy, otherwise understood as the seasonal change.

Hard+Soft Architecture will grow details that are specific to the circumstance. This is a basis for utilizing conventional materials and techniques as well as manipulating them in ways that challenge conventional use. In a global construction economy, localization of tectonics grows out of a situation. For example, these situations are the changing circumstances that emerge from the specific peculiarities of the Muskegon subculture. The hard and soft relationship is also a mechanism for the exploration of adaptively reusing existing buildings. The hard parts of a building are those that are heavy and permanent such as existing brick walls, structural piers, supports, and other load bearing pieces of a building. The soft parts are the insertions or added spaces. Soft space may be weaved throughout the hard space to create relationships between the old and new.

In addition, Hard+Soft architecture acknowledges Frampton's idea in which he utilizes place and tectonics as a mechanism for embracing the global changes.
Hard+Soft architecture provides a mechanism for

the exploration of tectonics and spatial conditions. Soft spaces are ephemeral; they expand and contract as a reaction to circumstances. It may be possible that the soft spaces are truly lightweight but appear to be heavy and vice versa.

Concluding Proposal

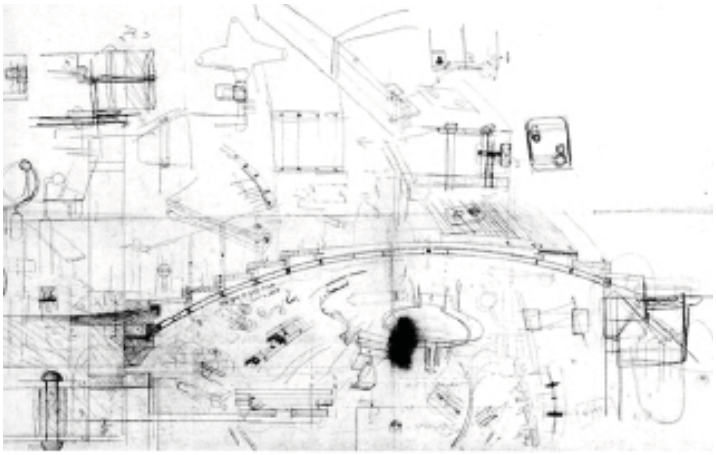
The implication of a changing global economy, the issues of wealth transfer, and the decline of job sectors have dramatically damaged our socio-economic fabric. The selfish capitalist motives of corporate America with support from government agendas have damaged not only our cities but also our ability to prosper and ultimately, for some, to live the American dream. As a result, many individuals have sought alternatives such as bartering or other alternative grey economies. Others with the entrepreneurial spirit persist to establish themselves as an independent business owner. This thesis does not intend to solve or introduce any foreign involvement to an emerging subculture, but as an advocacy designer, simply foster a grassroots organization by serving as a conduit for advancing the success of the entrepreneurial spirit with Hard+Soft architecture. The grassroots organization will replenish the de-industrialized wastescapes with an independent concentration of employment and economic production.


Bagley
Times Square
DO NOT
ENTER

PRECEDENTS

Querini Stampalia Foundation - Venice Italy
Carlos Scarpa-1959

In 1949 the governing body of the Querini Stampalia Foundation decided to start restoration work on some parts of the Querini Stampalia Palace. Carlos Scarpa was commissioned to restore the ground floor and the garden behind the palace. The renovation to the Querini Stampalia reveals Scarpa's interest in an authentic architecture in which he considers place, tectonics, and an obsession with details. Scarpa's restoration project started with the removal of the nineteenth century decoration, restructuring of the existing walls, and restoration the existing architectural features. The work consisted of four parts: a new bridge giving access to the building, the entrance, the portego and the garden, to connect all of these spaces.



(figure 1)

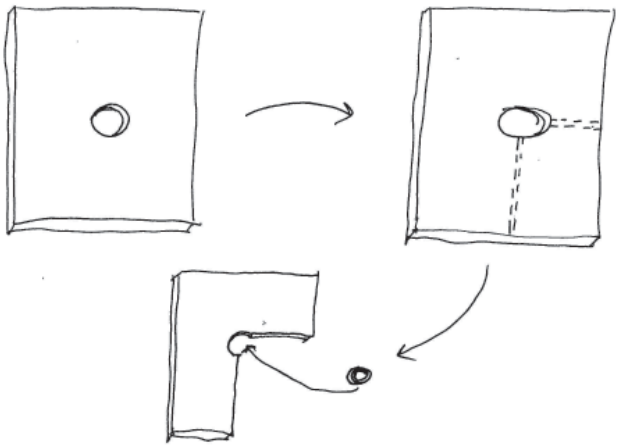
The process of design for Scarpa involved extensive amount of drawings. These allowed Scarpa to think out his ideas and test them on trace. Layers of drawings were created in pencil on card overlaid with trace in black and red India ink. (figure1) He would construct "detailed drawings on tracing paper in pencil, with colored crayon being employed to identify different layers and levels in both plan and section."[1] Each drawing depicted his consideration for the actual making of an object, in which the actual drawing process would be similar to the process of construction. He would start from the bottom and work his way up or draw in a way that would consider gravity.

(figure 2)

Scarpa changed the access at the front of the palace by building a bridge and turning a window into a new entrance instead of using the existing water gates. The bridge is designed to accommodate two different base heights, and is arched to allow boats to travel below. Like most of Scarpas work, the themes revolve around

1. Frampton, 308

(figure 3)



(figure 4)

transitions and bearing. The bridge rail articulates each transition; each joint detail articulates the translation of horizontal to vertical as well as one material to another.(figure2) It seems Scarpa's work does not involve the exploration of profiles already on the market, but an obsession of control over the details in which he explores materials and the possibilities for connection.

His details were produced to "suit its procedural needs"[2]. Each design move had extensive thought and consideration for the construction process. For example, when he created an L-bracket, instead of allowing two cuts coming together to overrun, Scarpa designed the joint of the two cuts to come together with a small hole drilled at the crossing point "so that the saw would change tone when it hit the intersection and thus produce a clean cut with no overrun."[3] He finished this detail by inserting a small brass ring into the crossing point. (figure 4)When Scarpa came to a point where a material made a transition with another, he expressed the transition of materials with the joint. This connection was articulated in such a way that one material fit precisely with the next. In this situation, when four different stone materials came to a point, he articulated the point of intersection with a puzzle-like connection.(figure 3)

It seems his appreciation for the act of making and the material connections create a sense of grounding in place. He distills what he perceives to be the essence of place through the act of making and care for the joint. His material palette is mostly natural materials such as alabaster, brass, and a mixture of Venetian aggregates in concrete pours. Scarpa worked directly with local craftsman and trades such as boat builders, masons, and smiths to get the exact detail. However, the concentration of details and the elaborate workmanship starts to overwhelm the experience of the space. Other aspects of

2. Frampton, 306
3. Frampton, 308

Querini Stampalia Foundation - Venice Italy 1959
Carlos Scarpa

these spaces also become overwhelming, such as the intensity of arousal from other elements such as water features, the diffusion of sunlight, and an uncontrolled spatial experience. These features do not fit well in a built environment that displays art. As a visitor travels through the galleries, one can not help but notice the workmanship throughout. It begins to be a bit distracting for viewing the art. The details are overly expressed to the point that it becomes decoration to the spaces.

Overall, Scarp's interest in tectonics, materials and an obsession with details distills the essence of the region. He utilizes local materials and craft that are specific to Venice such as the concrete mixed with Venetian aggregate, Alabaster and Brass. Scarpa also acknowledges the regions climatic and seasonal variation. The gates shown in figure 2, acknowledge the fluctuating tides of the Venetian Lagoon. He creates a dynamic changing atmosphere as the tides enter and leave the building. Scarpa uses these strategies to create an authentic architecture that is grounded in place.

American Folk-Art –New York
Tod Williams and Billie Tsien Architects-2002

Tod Williams and Billie Tsien's (TWBT) work can be understood as a "search for certain qualities such as: the strength of restraint, the connection of a building to its site, the importance of the space between and the primacy of perception over theory."[1]Tod Williams and Billie Tsien also describe their work as a celebration of craft. They seek to create a connection to place while revealing the work of the human hand. Tod Williams notes that: "at an early stage in our lives, the presence was more important; as we grow older, the balance is shifting more toward the connection."[2] They feel that there is a common persistence of many designers to create buildings that appear lightweight, they believe that a building is heavy and should display its weight through the materials and evidence of the human hand as a connection.

The American Folk Art museum displays the connection to place and the feeling for the human hand in the work. "They use craft as a force to resist ordinary construction; they use craft as a way of resisting the violence of banality, and a way of resisting the flow of goods through the mainstream of the of the construction industry."[3] The façade is clad in 63 textured panels of Tombasil, a white bronze alloy that is used for boat propellers and fire hoses. (figure1) Tobasil is typically cast in conventional forms, although TWBT responded to an unexpected discovery as they collaborated with a manufacturer. The product of a manual fabrication process is evocative of the "hands-on" approach characteristic of folk art. The molten metal was poured directly into gated forms on the concrete floor; it quickly cooled, bubbled and created a dynamic profile and texture. (figure3) The panels simultaneously have qualities of both stone and metal like stone and metallic while creating different effects as it catches the sun light throughout the day. Tsien mentions that

(figure 1)

"Whatever we design must be of use, but at the same time transend its use. It must be rooted in time and site and client needs, but it must transcend time and site and client need"
-Billie Tsien

(figure 2)

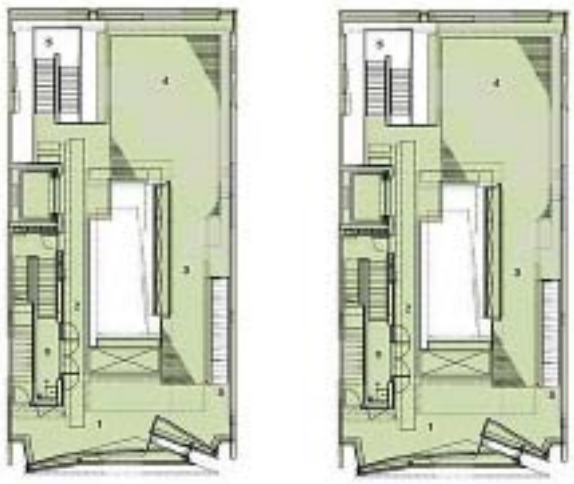
1. Williams, 23
2. Williams, 222
3. Williams, 24

they wanted the building to "reflect the direct connection between heart and hand."[4]

In this paractice, many ideas and explorations are carried throughout each project. For example, Tod William's first commission, the Tarlo residence, consisted of designing a home with a minimal budget. The connection of site to the building was a key driver for the architecture. It responds to an open field with little or no vegetation. "The openness and extreme horizontality of the Wainscott farmland did not seem to need trees it seemed to need a wall."[5] This created a mask for the building offering punctured openings for framed views and a protective layer for a glass façade. The same approach occurs at the American Folk Art Museum, in which the façade of Tombasil creates a mask. Various punctured openings allow framed views to the exterior while controlling direct sunlight.

(figure 3)

Another exploration that has carried throughout their work is the use of a fiberglass material used as visual screens. The first exploration occurred in their early work in which they designed a temporary exhibition. TWBT designed screens that sectioned off various parts of the gallery yet allowed the visitor to meander with a blurred visual connection. TWBT managed to "play" with the materials transparency by adding colors and pigments to the fiberglass composition. They proceeded to explore this work until they honed the right transparency and pigment. The fiberglass exploration was a feature that carried into the American Folk Art Museum (figure 2). The stairwells that peak toward the front split of the "mask" are separated with the fiberglass material. (figure4) In this case the pigments and transparency effect were adjusted to fit the design intent of the museum. The transparency provided a clouded view that diffused sunlight to accommodate the spaces that display art.
Overall, the work of TWBT such as the "mask"

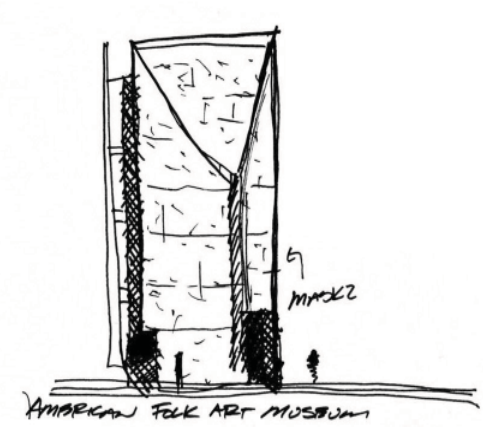


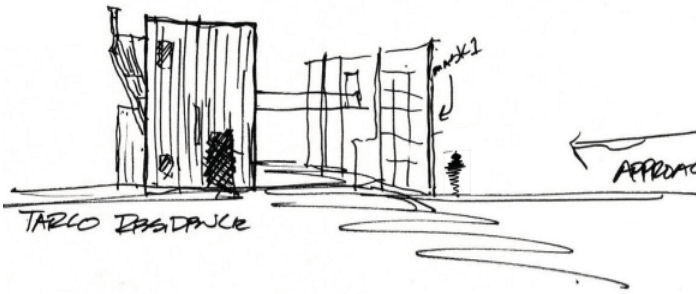
(figure 4)

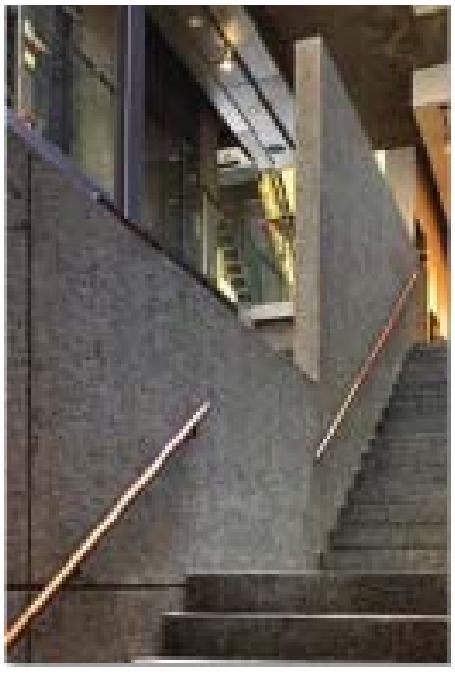
4. Williams, 223
5. Williams, 45

American Folk-Art –New York-2002
Tod Williams and Billie Tsien Architects

and the manipulation and filtering of light shows how one architectural exploration is continued into other works. Each architectural work contains some aspect of an idea that may not be fully realized and is thus carried to another work for further exploration. In relation to this thesis, this idea is what defines the process of design. Each architectural exploration emerges through the work, yet brought to a next level in order to fully explore the ideas.







LandSchaft Park Duisborg-Nord - Germany
Latz+Partners-1990-2002

This project explores the question: what do we do with an abandoned post-industrial landscape? Latz+Partners explore this question with Landschaft Park. LandSchaft Park is a reclaimed industrial site formally occupied by a steel works. Re-using the underutilized and undervalued post-industrial landscape has allowed many new programmatic conditions to occur.

What was once the powerhouse for Germany is now a place where visitors can enjoy recreational activities. Because of the economic challenge to clean-up the entire abandoned site, Latz + Partners decided to leave parts of the existing industrial site intact, removing only those elements that were in need of toxic clean-up. They preserved the existing rail tracks, mill, bridges, water tanks, and steel houses as an opportunity to re-use. (Figure 1+2)

figure 1

The landscaping design team strategically selected plantings that would promote healing the damaged eco-system. Certain areas contain more toxins than others, so certain floral are planted to remove the toxins from the soil. The park contains multiple adventurous activities including, scuba diving, a high viewing platform, multiple bicycle trails and even a series of rock-climbing caverns. (Figure 3+6)

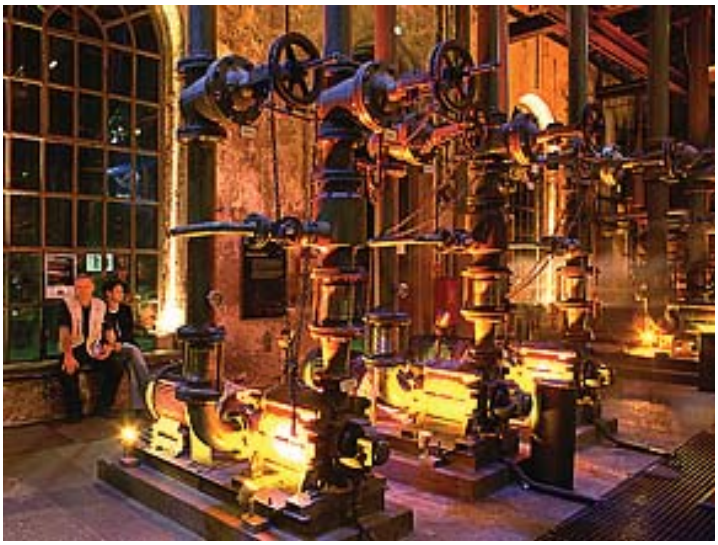
figure 2

Another space that was re-programmed is the Engine house. The engine house is divided into a series of entertainment spaces. There is a lecture hall that accommodates 800 guests, a restaurant in the control house, and a performance space for concerts, plays, and a night club.(figure 4+5) Each space is delicately lit with the use of multiple colored lights that bring a sense of wonder and awe to the dynamic spaces. What was once a controversial landscape now has more than 500,000 visitors a year exploring the ruins of a previous economic past.

figure 3

LandSchaft Park Duisborg-Nord - Germany
Latz+Partners-1990-2002

(figure 4)



(figure 5)

(figure 6)

LandSchaft Park Duisborg-Nord - Germany
Latz+Partners-1990-2002

Material Investigation-
Pugh + Scarpa-

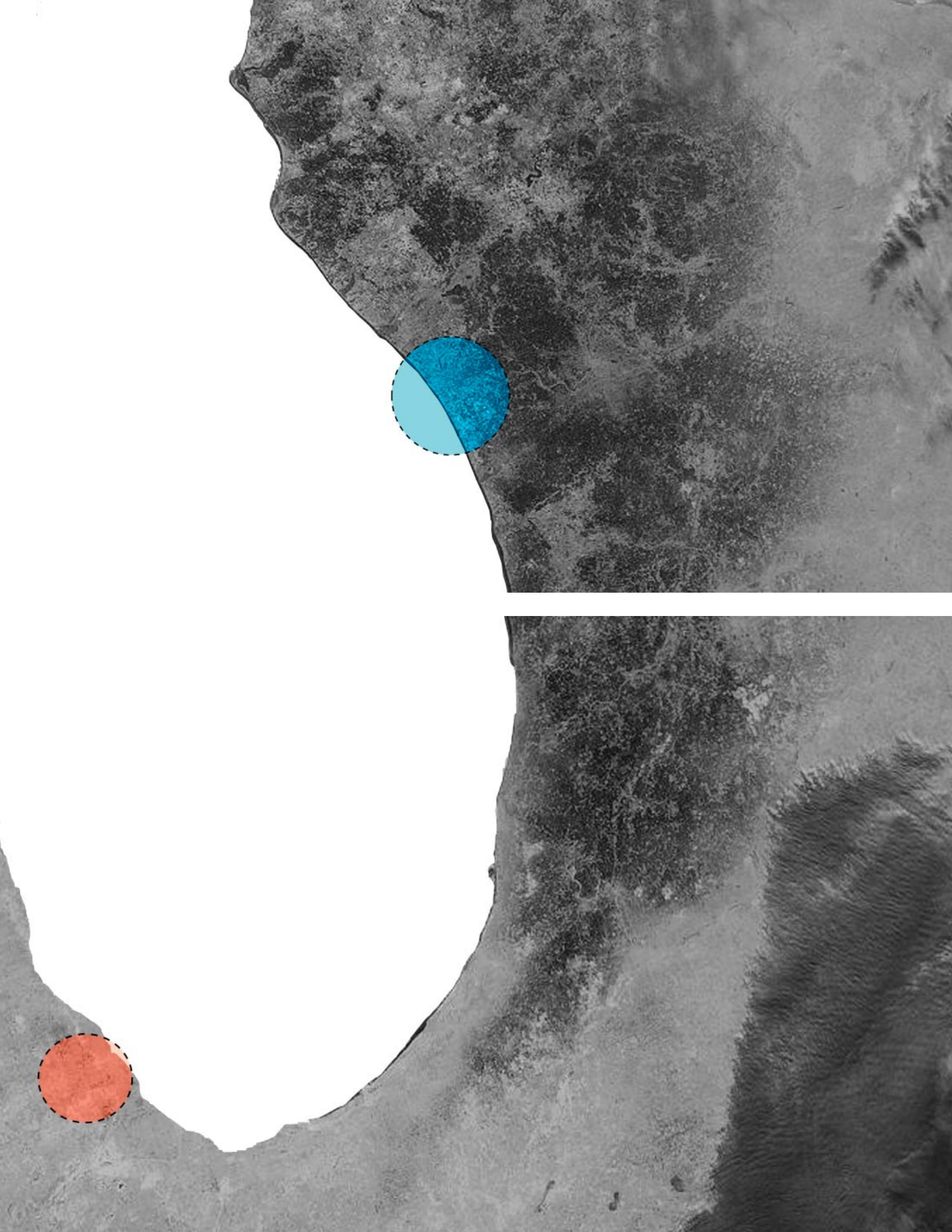
Pugh and Scarpa are well known for being a group of socially conscious architects. Many of the projects comleted range from residential urban infill to adaptive reuse. The work consistently toys with the idea of creating a connection that resonates between place and those who experience it. The work investigates new uses for existing materials.

They expand on the possibilities of the human connection to a building and its place. They feel that the power of architecture is within the material. Used in innovative ways, they contain a connection to place yet have the capacity to erase the memory and start a new future. They believe "by revealing the material's essence, by letting it tell its own story, material determines design." The innovations prevent the team from entering a project with a pre-defined endgame. For example, Dixie cups are typically used for holding liquids, after they are used, they end up in a landfill. In this case, Pugh + Scarpa adaptively re-use the cups for filtering daylight. (figure 1).

(figure 1)

Another material that was re-used is the "Oil Spill Clean Up Device" (figure 2). It is a blanket of spheres typically layed out on an area that has been contaminated by careless acts of transporting sweet crude. The material consists of chemically modified 5/8" spheres that absorb oil on contact. When the spheres are contected to each other the synergy of the group of spheres forms to fluctuating surface. Pugh and Scarpa adaptively re-use the spheres to create a new blanket that absorbs and difuses daylighting. As light moves throughtout the day, the spheres manipulate light to create a dynamic changing effect grounded in place and time.

(figure 2)



PROGRAM + SITE

Like many mid western-towns, the once vibrant industrial economy of Muskegon is slowly morphing into vacant post-industrial landscapes. The recent economic shift has created a high unemployment rate, displacing thousands of blue-collared positions. According to the Muskegon Chronicle, (December 2008) the recent unemployment rate was announced at 23.6%, the highest since the 1930's.

The Brunswick plant located in south Muskegon MI, once home to more than a thousand employees, has re-engineered its total production. At one time Brunswick not only made bowling balls and bowling pins, but also lanes and automatic pin setting machines. The Muskegon Brunswick Corporation recently announced moving its bowling ball production to Mexico. According to John Stransky, President of Bruns¬wick Bowling and Billiards, moving the production will eliminate 115 jobs and instead of $35.00 an hour in salary and benefits, Brunswick will pay Mexican workers less than $3.50 an hour to make bowling balls. This is one of many scenarios occurring in Muskegon. Many industrial and manufacturing jobs are re-locating to other countries or are completely shut down as a result of bankruptcy.

Thousands of job-less individuals typically look to the government for support to compensate for the abrupt changes in net income. With help from food stamps, and unemployment checks, displaced workers rely on governmental intervention for support. However, as mentioned, there is a small subculture that is starting to emerge in Muskegon, MI. This subculture is a group of neighbors and friends that get together to provide services and support for one another. The group barters with one another as a means for exchanging services such as landscaping, home repair, motor vehicle repair, tattooing, beauty services, and general labor. As a reaction to declining industry and governmental control, this population is becoming self-sustainable, although they lack the capital and business knowledge to operate at their full potential. This scenario will be the seed for the programmatic condition.

Program

"In 2005 alone, North American incubation programs assisted more than 27,000 companies that provided employment for more than 100,000 workers and generated annual revenues of $17 billion." Linda Knopp, 2006 State of the Business Incubation Industry. Athens, Ohio: National Business Incubation Association, 2007.

The thesis program is a mechanism that offers an alternative strategy for business operation within our new economy. In essence, a place that is not defined by private property but shared resources and bartering services. The thesis program proposes business incubators as an alternative strategy to successfully compete in a new and challenging economy. A business incubator creates a conduit to reach and support home-based business, emerging entrepreneurs, and existing entrepreneurs. Many of these entrepreneurs face the challenges of competing in a global economy with difficulties acquiring services such a insurance, advertisement and marketing costs, and links to financial resources for initial investments to name a few.

A business incubator accelerates the successful development of entrepreneurs. Incubators create jobs, revitalize neighborhoods, and commercialize new technologies. Business incubators reduce the risk of small business failures and offer advantages to small business such as below market rent, flexibility to expand, shared amenities, technical and financial support, business networking, and specific business skill development.

Business incubators will include shared amenities that will water the grassroots development. Most start-up business owners need the tools and amenities to successfully operate. Where does the entrepreneur find financial links to acquire such resources? Is there an alternative solution for operational amenities? In some scenarios, the not-for-profit organization will provide amenities such as computers with net connection, fax and phone, and other business management resources that can be shared with other entrepreneurs. Other scenarios may include sharing equipment, such as those required for construction, landscaping, website development, or mechanical repair. This not-for-profit will also have the ability to create financial links for

acquiring resources and necessary start-up fees that are not available or shared among the grass roots organization. Many entrepreneurs who do experience growth suddenly find their credit lines (if they actually qualify in the first place) unavailable because banks refuse to lend. Business incubators will provide entrepreneurs the opportunity to acquire funds under supervised provisions. For example, one may acquire a loan for $5,000 for start-up amenities, as the independent business owner successfully makes returns on investment he/she may qualify for an additional $10,000 for necessary investments.

Another asset business incubators provide is business to business networks. Legitimized business owners have the opportunity to participate in networking opportunities that will allow an outreach to other business owners. This will serve as marketing and advertisement to other local, national and even global entrepreneurs. The network provides services to each other, allowing for this particular grassroots organization in Muskegon may form a coalition with other networks that have already emerged. What if the Muskegon Business incubators spread like wild fire and plant grassroots seeds in multiple communities throughout the state to extend the not-for profit community of entrepreneurs? (Ie. The Kaufman foundation has links to start-up organizations that already exist or the National Business Incubation association may include groups that are interested in tapping new and emerging networks) For example, the Vanguard Institute in Detroit offers business incubator space and small business development strategies. This organization focuses on community development and collaboration and offers business coaching and rental cubicles for entrepreneurs. Connecting with this organization will allow Muskegon entrepreneurs to access services such as web design or marketing that may already be provided in Detroit. This network will provide opportunities for entrepreneurs to acquire services from each other. Is it possible that Detroit may need a tattoo design from the famous Muskegon tattoo artist? Creating a coalition with new emerging and existing organizations will strengthen the whole. The synergy of the whole network is greater than its individual parts.

Business Incubators provide the knowledge, skills and confidence to help entrepreneurs develop

their maximum potential. The specific business skill development will allow entrepreneurs to successfully operate and manage a small business. Skill development includes leadership and team development, strategic planning, capacity building in creativity and innovation, brand development, communications skills, and group mentoring skills. All of these are critical to any successful operation of a small business owner. It is critical that the business incubator emerges upfront with the knowledge and understanding of the intangibles of small business operation.

Program Analysis

Potential entrepreneurial activity, including those that already exist or are in development:

It is important to note as a business plan, the organization will plant its seed as a grass roots strategy. All of the spaces and actions described are support spaces for the anticipated forms of entrepreneurial activity. The programmatic condition will contain both hard spaces and soft spaces. Hard spaces will be permanent and will be the foundation for the grass roots organization. Hard spaces will include a gathering space, workshops, shared office and conference space. For example, a conference room may also serve as an area that has the incentive to operate as a teaching, or business coaching space. Soft spaces will be areas adjacent to the hard spaces that will emerge as entrepreneurs develop. The soft spaces and amenities will be designed in a way that allows maximum flexibility in terms of current and future operations. These are ephemeral spaces that provide amenities for website development, catering, landscaping and other forms of entrepreneurial activity that will come and go.

Program Proposal

Indoor facilities will include a gathering space, educational resources, administrative area, training space, and resource area. Outdoor facilities should allow people to gather with the potential for large group meetings.

This organization will create a synergy of two facilities:

1. A downtown “retail incubator” in which

entrepreneurs will rent the space to sell services such as tattooing, nail salon, and space to sell manufactured goods such as cabinets, custom furniture etc.

2. The second facility offers the business education, management, technical and financial support. This includes a gathering area for entrepreneurs to come together and share ideas, administrative areas, training space, a commercial kitchen, and works shops that are flexible to accommodate various tools or machinery that is necessary for the manufacture of goods and motor vehicle repairs.

SITE(S) Criteria

Deindustrialization has created "waste landscape through the attrition of industrial landscapes and buildings in older parts of the traditional central city." Re-programming this waste landscape is one of the questions this thesis explores.

A site specific approach must be taken to understand the local economy and surrounding context that will support the programmatic conditions. The selected site and program are integral parts of the thesis. The programmatic conditions allow for the full potential of the exploration of this thesis in terms of business development, response to the globalization and architecture, and opportunities of the undervalued and overlooked potentials of the urban waste landscapes. The architectural intervention will occur in Muskegon, MI where an emerging subculture has occurred as an alternative to the current economy. But first, we must zoom in and establish important criteria for selecting the site that facilitates the operation of business incubators that will develop through hard+soft architecture.

To support the program, there should be signs of other activities that are reclaiming the economic downturn. This will help to provide local support for the grass roots organization that will occur following with business development. The site should be located in an area that has good visibility and ease of transportation access to draw customers to retail incubator space. The site circumstance should occur within a city that has a relatively high unemployment rate, a high

level of poverty, and abandoned structures as a result of declining industry. The site should be located in an area that offers advantages in the geographical area. These are areas that qualify for Brownfield tax incentives, renaissance zones. Many areas fitting this description are located within traditional city centers that experienced deindustrialization and post-Fordist modes of production.

Program Quantitative Summary

Building 1: Retail Incubators

Space Description	Quantity	Total Required SF
Shared Office	2	300
Education Classroom		250
Shared Conference		350
Retail Space 1_tatoo shop		600
Retail Space 2_coffee		1200
Retail Space 3_beauty salon		750
Retail Space 4_web design		400
Retail Space 5_fitness		1400
Private work space		200
Vestibule		80
Restrooms	2	350
Total SF=		**5880**
Mechanical/Electrical		836
12% of total sf		
Circulation		544
15% of total sf		
Total SF=		**7260**
Parking		
25 spaces		

Program Quantitative Summary

Building 2: Workshop Incubators

Space Description	Quantity	Total Required SF
Mangement Office	3	350
Communal Gathering	2	850
Shared Workshops	3	3700
(the shared workshops is the initial scheme)		
Shared Storage		800
Shared Office	3	375
Resource Center/Technolgy		225
Education/conference		350
Vestibule		80
Restrooms	2	350
Total SF=		**7080**
Mechanical/Electrical		1640
15% of total sf		
Circulation		708
10% of total sf		
Total SF=		**8828**
Parking		
15 spaces		

Space Detail Summary-01

Gathering Space

Building 2: Workshop Incubators

A. Quantities

1. Space Capacity- 50 occupants
2. Number of spaces- 2
3. Net SF/Space- 425
4. Total Net Area-NSF x no. of spaces = 850sf

B. Purpose/Function

A conduit to serve as an area where entrepreneurs come together, share ideas, and focus on business development.

C. Activities

A meeting area for entrepreneur members for sitting, thinking, talking, and sharing ideas.

D. Spatial Relations

The gathering space will serve as the central core of the workshop incubator facility. The space should offer an opportunity for gathering in every seasonal variation. The space will contain both enclosed and open air spatial relationships. The intent is to create a dichotomy with the inside/outside to facilitate interaction with the neighboring Lake Shore Trail Development.

E. Qualitative Consideration

The space shall have an open spatial feeling to facilitate interaction. The open-air shall have a dichotomy with its environmental conditions.

F. Equipment/Furnishing

Built-in seating will be furnished for entrepreneurs to converse in a semi-private atmosphere.

G. Behavioral Considerations

The gathering space shall provide an atmosphere that will feel safe and inviting.

H. Structural System

Post and beam construction will be used to integrate a trellis for the open-air gathering space. The enclosed area will be constructed with wood frame construction.

I. Mechanical/Electrical

Wireless net connection will be provided throughout the facility. An exterior radiant heating system shall be provided to facilitate open-air use during the cold seasons. Exterior lighting will be provided for security and architectural accents.

J. Site/Exterior Environment Conditions

The site is adjacent to the Lake Shore Trail Development. The intent of the gathering space is to open to this area.

Space Detail Summary-02

Workshops

Building 2: Workshop Incubators

A. Quantities

1. Space Capacity- 10 occupants
2. Number of spaces- 3
3. Net SF/Space- 1200sf
4. Total Net Area-NSF x no. of spaces = 3600 sf

B. Purpose/Function

As a shared amenity, the workshops offer space for start-up entrepreneurs to engage in activities required for bartered services.

C. Activities

This is an area for entrepreneur members for repairing or manufacture of goods. Some of the activities include adjusting, replacing, improving, fabricating, and assembling.

D. Spatial Relations

The workshops will be located adjacent to the central gathering space. The space shall contain high floor to ceiling heights to accommodate motor vehicles and manufacture of large equipment and objects.

E. Qualitative Consideration

The space shall have an open spatial feeling to allow flexibility in activities. The space shall have a dense work surface, controlled ventilation and daylight.

F. Equipment/Furnishing

The space shall contain shared tools, lifts, and other equipment necessary for the required activities for a handyman, landscaper, or mechanic.

G. Behavioral Considerations

The shared workshops shall provide an atmosphere that will allow a safe work environment.

H. Structural System

Open web joist and steel columns and beams.

I. Mechanical/Electrical

Wireless net connection will be provided throughout the facility. Radiant heating system shall be provided during the cold seasons. Continuous air exchange will ventilate when natural ventilation is not applicable.

J. Site/Exterior Environment Conditions

The location of the workshops will facilitate easy access of equipment to and from the facility.

Space Detail Summary-03

Education/Conference

Building 2: Workshop Incubators

A. Quantities

1. Space Capacity- 15 occupants
2. Number of spaces- 1
3. Net SF/Space- 350sf
4. Total Net Area-NSF x no. of spaces = 400 sf

B. Purpose/Function

Education/Conference provides the support space needed to complete tasks necessary for successful business education.

C. Activities

The education and conference room facilitates activities such as informing, coaching, presenting, and illustrating.

D. Spatial Relations

The education/conference space will be located adjacent to the administration and management department of the facility.

E. Qualitative Consideration

Controlled transparency will create a dichotomy between the interior and exterior to create views from within and views from the exterior looking in.

F. Equipment/Furnishing

The space shall contain loose tables, chairs, marker boards and equipment for image projected presentations.

G. Behavioral Considerations

Promote an environment that facilitates the comfort for users.

H. Structural System

Type V: Wood Frame Construction

I. Mechanical/Electrical

Wireless net connection will be provided as well as electronic devices necessary for projected presentations.

J. Site/Exterior Environment Conditions

The visual significance of the education/conference room will be considered when locating the space on the site. As one approaches the facility it is required that the space will create an image for the facility.

Space Detail Summary-04

Shared Office

Building 1: Retail Incubators

A. Quantities

1. Space Capacity- 4 occupants
2. Number of spaces- 2
3. Net SF/Space- 120sf
4. Total Net Area-NSF x no. of spaces = 240 sf

B. Purpose/Function

Offices provide the support space needed to complete tasks necessary for successful business operations such as mailbox and voicemail services, copy and fax services, and internet connection.

C. Activities

The shared office will utilize the shared amenities for activities such as communicating, planning, organizing, leading, and controlling.

D. Spatial Relations

The shared offices will be located in an area that is private from the public retail areas. The area of the facility will be in proximity to services such as mechanical/electrical and restrooms. There will be direct access to the exterior as well as access to the retail area.

E. Qualitative Consideration

The space will be concealed from other interior activities to facilitate private use of space for users. Natural day lighting and ventilation strategies will be integrated.

F. Equipment/Furnishing

The space shall contain loose tables, chairs, marker boards and computer equipment. The shared offices will designate a workstation that will include work surfaces, phone, fax and copy. Vertical storage units will be available for individual use for each entrepreneur.

G. Behavioral Considerations

Promote an environment that facilitates the comfort for users.

H. Structural System

Light gauge metal stud construction for wall assembly. Existing structural system will provide incentives for attachment.

I. Mechanical/Electrical

No special mechanical or electrical considerations.

J. Site/Exterior Environment Conditions

It is important for the shared office to utilize natural day lighting and ventilation strategies.

Space Detail Summary-05

Retail Spaces - tattoo artist

Building 1: Retail Incubators

A. Quantities

1. Space Capacity- 65 occupants
2. Number of spaces- 6
3. Net SF/Space- 600sf + 400sf
4. Total Net Area- 1000 sf

B. Purpose/Function

Retail spaces are intended to be flexible to accommodate future change in function. For the purpose of this detailed program document, it is the intent that one of the six retail spaces will allow the accelerated development of the tattoo artist as entrepreneur. The function of one retail space will provide private tattoo work and display of tattoo designs.

C. Activities

This retail space will facilitate activities that are required for the successful operation of a tattoo parlor. Activities will include sitting, talking, piercing, negotiating, selling and purchasing.

D. Spatial Relations

The tattoo retail area will be located in an area that has private area separate from the public display areas for privacy of customers. The area of the facility will be in proximity to services and restrooms. There will be direct access to the exterior as well as access to the display area.

E. Qualitative Consideration

The space will be concealed from other interior activities to facilitate private use of space for users. Natural day lighting and ventilation strategies will be integrated.

F. Equipment/Furnishing

The space shall contain tattoo equipment, loose tables, chairs, and work benches. The space will also provide visual and audio entertainment.

G. Behavioral Considerations

Promote an environment that facilitates the comfort for users.

H. Structural System

Light gauge metal stud construction for wall assembly. Existing structural system will provide incentives for attachment and weaving space between.

I. Mechanical/Electrical

No special mechanical or electrical considerations.

J. Site/Exterior Environment Conditions

It is important for the shared office to utilize natural day lighting and ventilation strategies.

Space Detail Summary-06

Retail Spaces - Fitness

Building 1: Retail Incubators

A. Quantities

1. Space Capacity- 65 occupants
2. Number of spaces- 1
3. Net SF/Space- 1400sf
4. Total Net Area- 1400 sf

B. Purpose/Function

The function of the fitness space will provide open area for fitness activities such as yoga, pilates, and aerobic exercise activities.

C. Activities

This retail space will facilitate activities that are required for the successful operation of a fitness club. Activities will include lifting, kneeling, yelling, stretching, bending, and sitting

D. Spatial Relations

The fitness area will be located in an area that has direct street and outdoor access. The area of this space will be in proximity to restrooms.

E. Qualitative Consideration

The space will be concealed from other interior activities to facilitate private use of space for users and to control acoustics. Natural day lighting and ventilation strategies will be integrated. The use of semi private courtyards will allow users to extend fitness activity to the exterior.

F. Equipment/Furnishing

The space shall contain fitness equipment, loose tables, chairs, and work benches. The space will also provide visual and audio support for fitness activities.

G. Behavioral Considerations

Promote an environment that facilitates the comfort for users.

H. Structural System

Light gauge metal stud construction for wall assembly. Existing structural system will provide incentives for attachment and weaving space between.

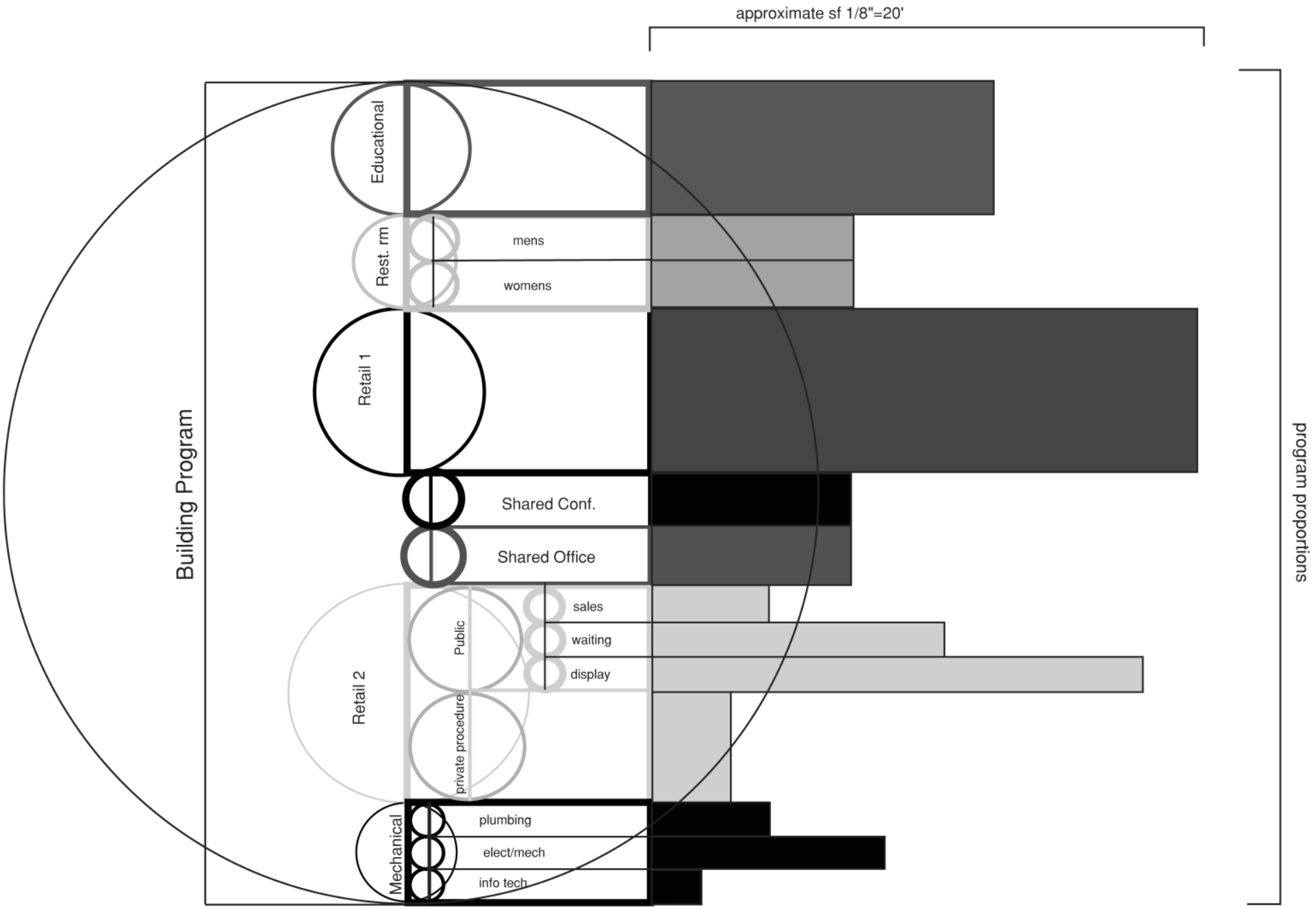
I. Mechanical/Electrical

There will be special consideration for cooling, ventilating, and humidity control.

J. Site/Exterior Environment Conditions

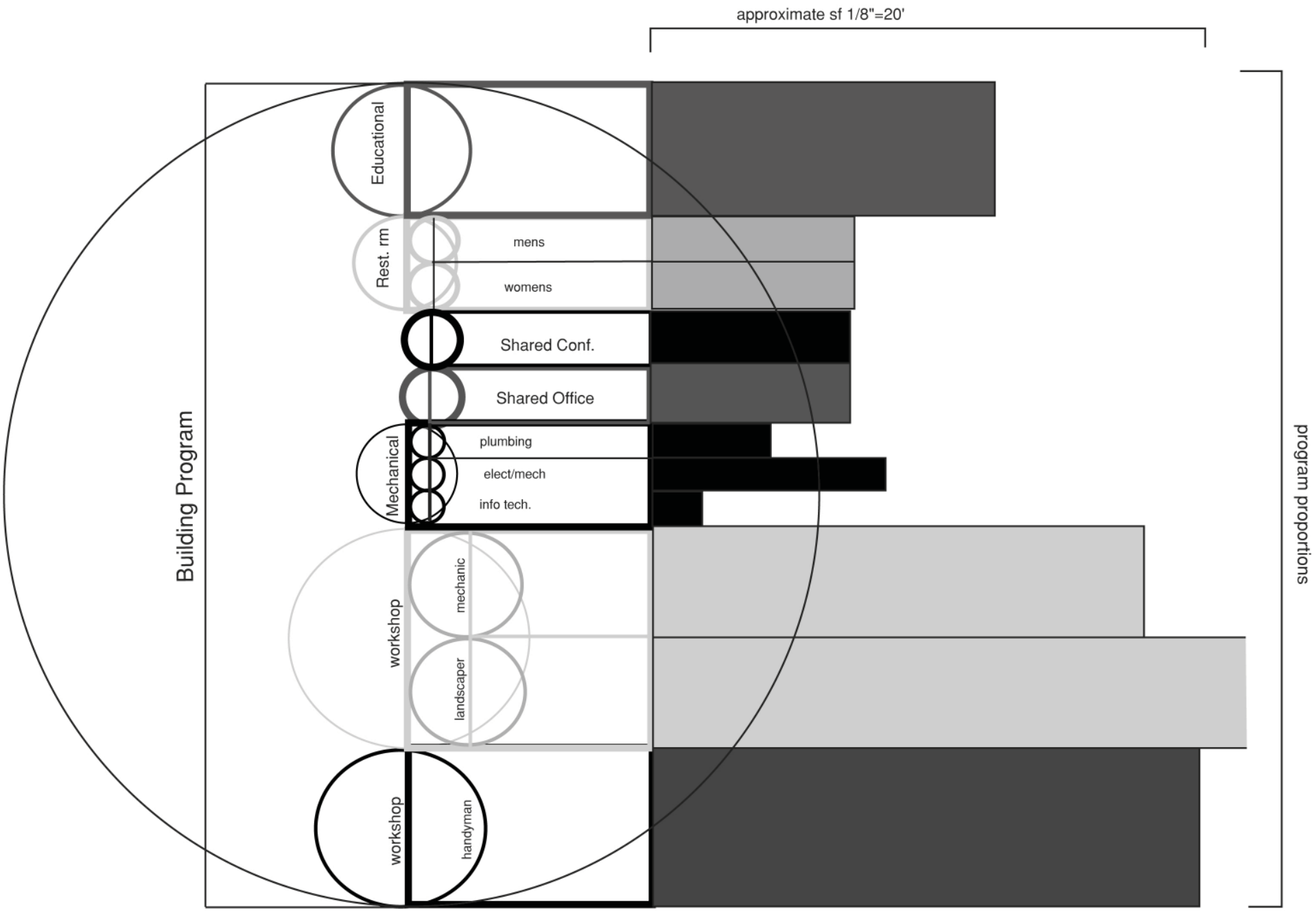
It is important for the fitness area to utilize natural day lighting and ventilation strategies. Extension of space to the exterior will enhance the fitness activities.

Retail Incubators
Program Analysis



Workshop Incubator

Program Analysis

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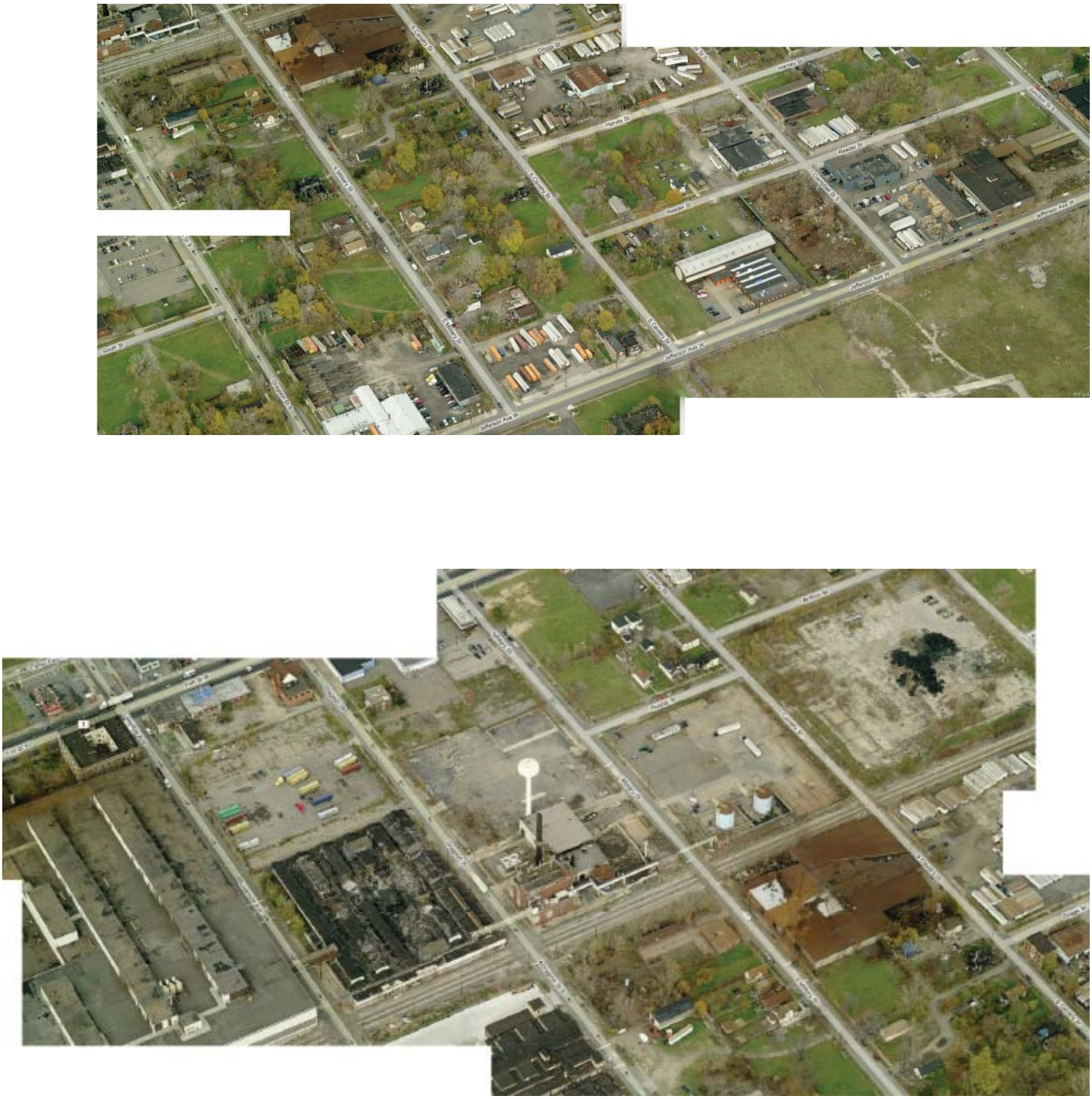


(figure 1)

Site 01: Detroit

West Jefferson and Livernois

Initially, a site in Detroit was considered for exploring opportunities for re-programming underutilized and undervalued post-industrial landscapes. This thesis has grown out of this initial investigation but has evolved to a position that demands a smaller site to facilitate a programmatic condition that has emerged. In additon, the following analysis investigates this site, following the criteria that is listed in the “Program” section above.

The area was originally developed with an industrial concentration but now has evolved into a vast abandoned wastescape. Vacant structures surround the area with pockets of residents neighboring the area. The socioeconomic statistics as well as the existing physical conditions of property are evidence of high poverty levels. The deindustrialization of the area has created large amounts of abandoned buildings offering an opportunity to explore the challenges of wastescapes.

Based on some of the criteria described in the program statement, the site falls short in terms of exploring the thesis from the entire sphere of requirements. The area is composed of very large abandoned industrial facilities which make it difficult to explore this thesis position. (figure 2) The area lacks any incentives such as business tax credits, and renaissance zones. The surrounding neighborhoods lack any activity that shows signs of redevelopment and is not located in an area that has good visibility or quick and easy access to draw customers to the retail incubators. It is important for the site to have exisiting residents to support the progrommatic conditions. (figure3)

(figure 2)

(figure 3)

Site 02: Muskegon

Brunswick Plant-East Seaway Drive

This is another site that was considered in the early development of this thesis. To facilitate the program, Muskegon was established as a pre-requisite for the site selection.

At one time Brunswick not only made bowling balls but also bowling pins, lanes and automatic pin setting machines in Muskegon. The Muskgeon Brunswick Corporation recently announced moving its bowling ball production to Mexico. According to John Stransky, President of Brunswick Bowling and Billiards, moving the production will eliminate 115 jobs and instead of $35.00 an hour in salary and benefits, Brunswick will pay Mexican workers less than $3.50 an hour to make bowling balls.

The city of Muskegon has recently prepared for the decline in production and transfer of manufacturing jobs. As a result the city has proposed a recreational trail to replace the rail lines that once provided the transportation of raw material and manufactured goods. The area is now designated as a renaissance zone and receives brownfield tax benefits for remediation. This site borders a community that is high in poverty and unemployment. However, the site falls short of the criteria of easy access to storefront accessibility.

This particular site meets the requirements for the exploration of the thesis . However, because of the massive size of the de-industrialized Brunswick campus, it is difficult to explore the possibilities of program and details of tectonics.

(figure 3)

Site 03: Muskegon

Post-Industrial Landscape _ Muskegon Heights

This proposed site was selected because of the relatively high number of families in the neighborhood, the diversity of the people and socio-economic range in the neighborhood (figure1 + also indicated in statistics), and the outstanding accessibility and opportunities for expansion. The site was also selected based on the declining industrial activity in the area. Adaptively reusing this waste landscape provides a medium for the basis of a design exploration that supports the thesis statement. Many of the industries have moved out, leaving behind many abandoned buildings. The city of Muskegon Heights has responded to this area of declining industry and labeled the area a renaissance zone that qualifies for Brownfield tax incentives.

(figure 1)

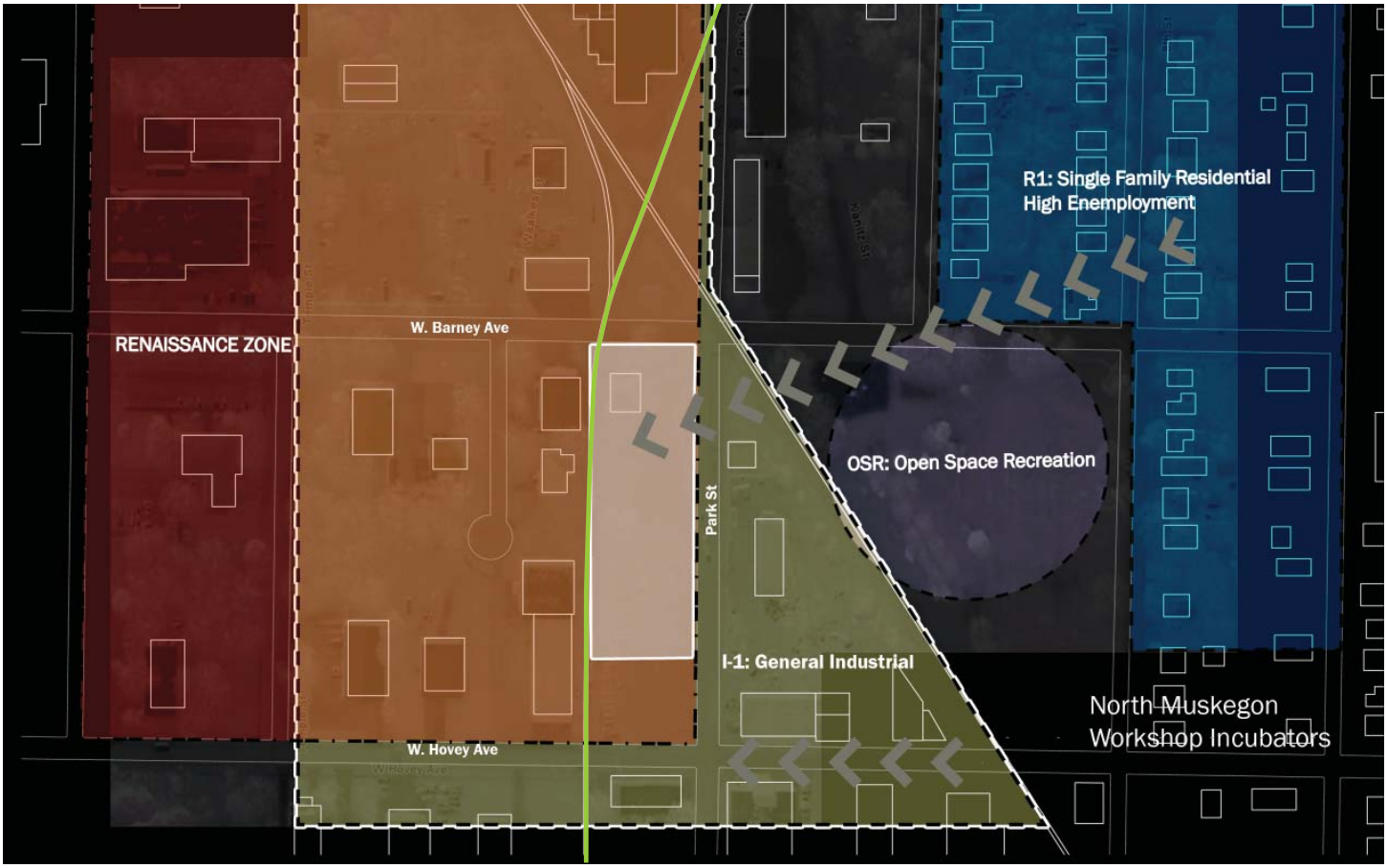
The contextual investigation reveals a social response to the economic strain that supports the “entrepreneurial spirit” in Muskegon Heights. Many neighboring porches are scattered with hair braiders offering services. Another form of the entrepreneurial spirit is found in the driveways of some of the neighboring homes. Cars and motorcycles set on jacks are pulled apart and wait for repair. Local boat builders use the public streets and sidewalks for space to make improvisational repairs to a damaged hull. (figure 2) Evidence of declining property shows through the lack of maintenance. Homes and yards are mostly occupied yet lack the maintenance required for urban lawn care. Some of the homes have missing windows, storm door closers, and paint peeling from the clapboard siding.

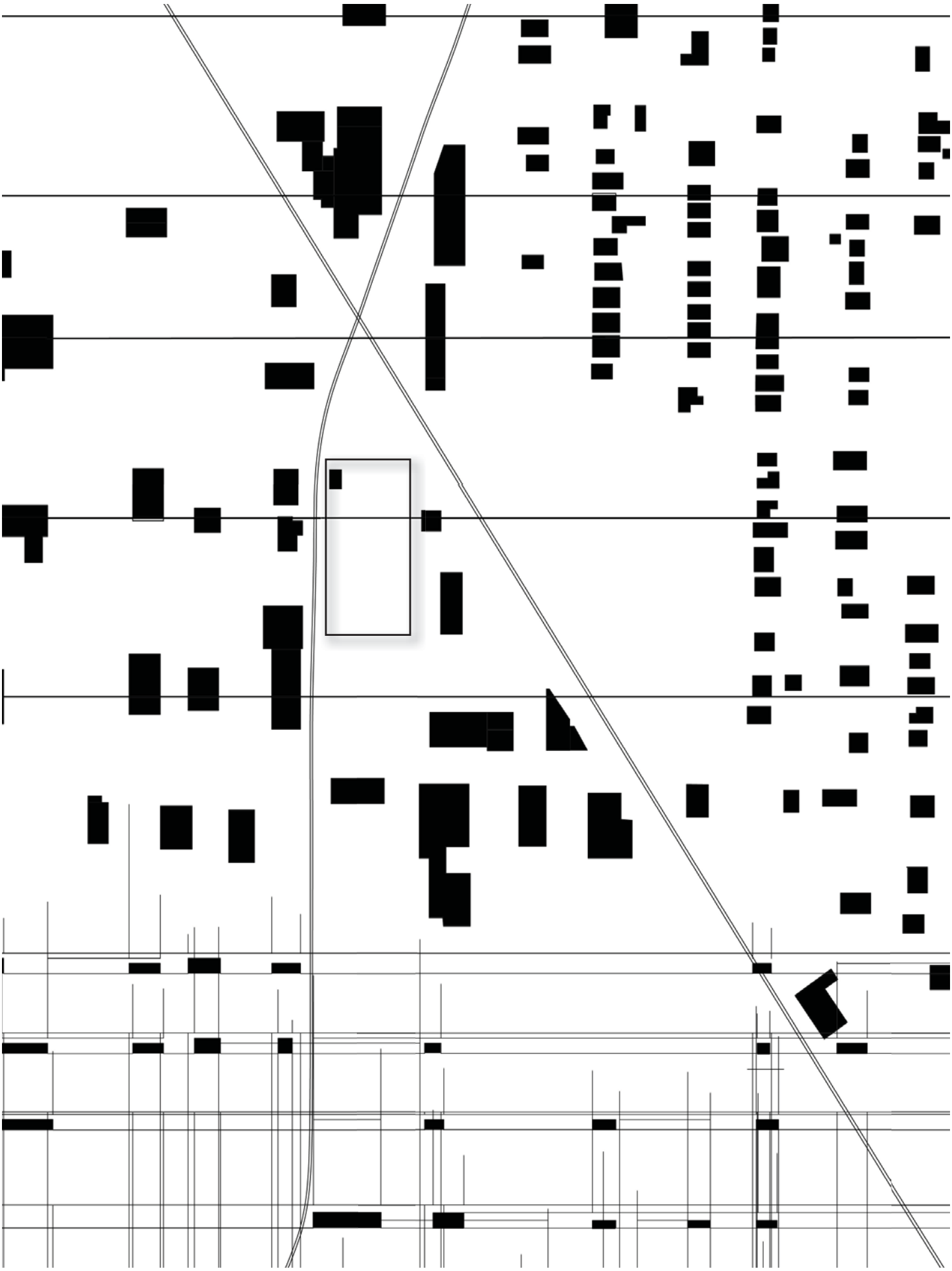
The neighboring rail lines bruise the landscape (figure 3), some sections are completely abandoned; others show signs of decreased activity. These rails support the strategy for utilizing this site that creates a synergy with a downtown facility that will provide retail space (see site 04). The rail is a portion of a larger network of recreational trails that is currently in the planning

and construction phases for the Lake Shore Trails Development Corporation (see section on lakeshore trail devlopment following site 04). This provides the opportunity to connect to a secondary site in downtown Muskegon proposed in site 04. Utilyzing this trail promotes a connection between the two sites. The two sites will link together while offering opportunities for engagement and participation from outside communities such as North Muskegon.

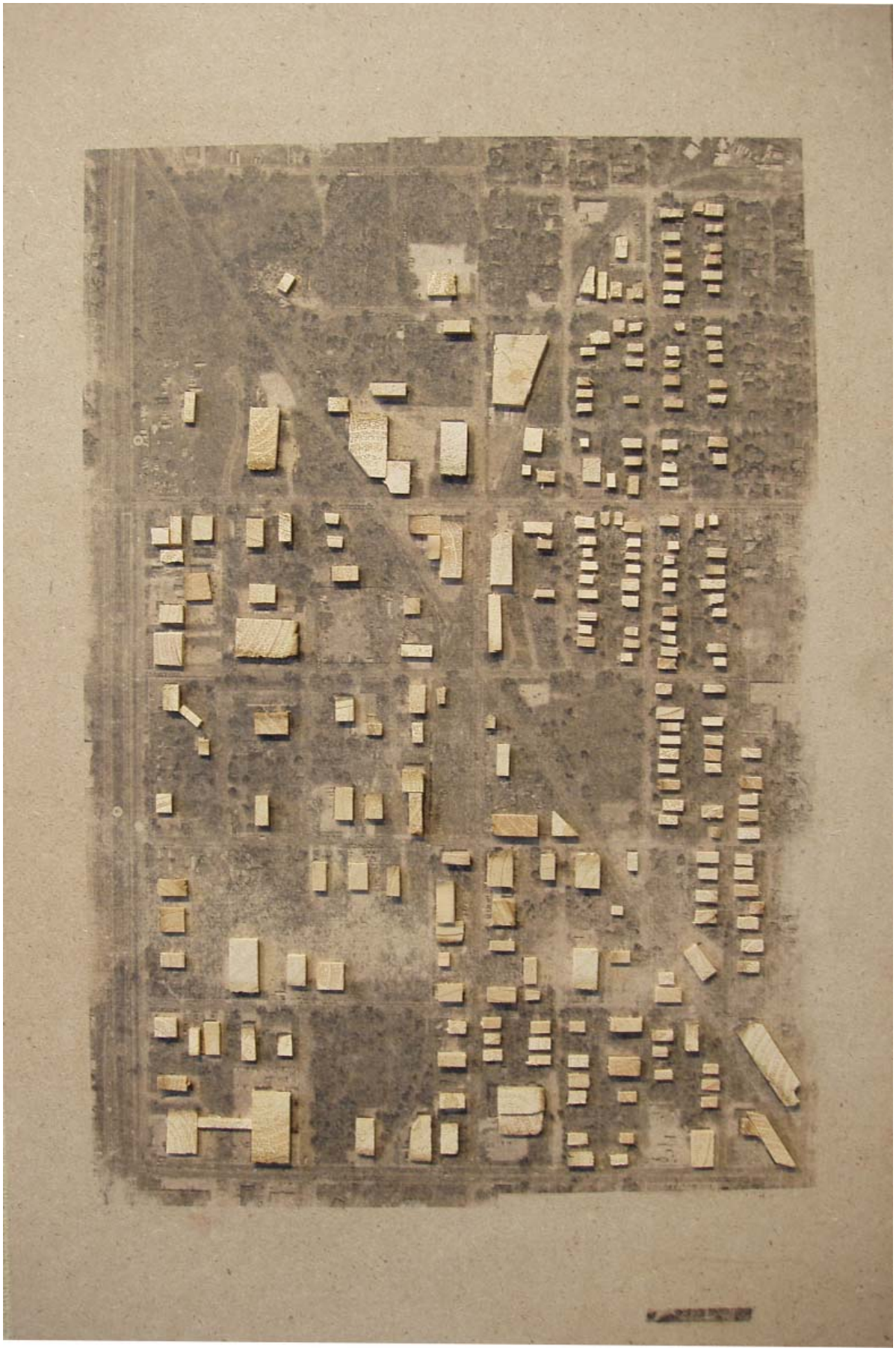
The site also meets the criteria to support the programmatic conditions necessary for light industrial activity. The site has a scale that is required for the anticipated growth of the organization. This includes the anticipation of storage of shared resources such as construction and landscaping equipment, work shops that are flexible to accommodate various tools or machinery that is necessary for the manufacture of goods and repairs, and good visibility and ease of transportation of goods and materials to and from the site.

(figure 2)





(texture of site)



(contextual model)

Site 04: Muskegon

Downtown_Retail Incubators

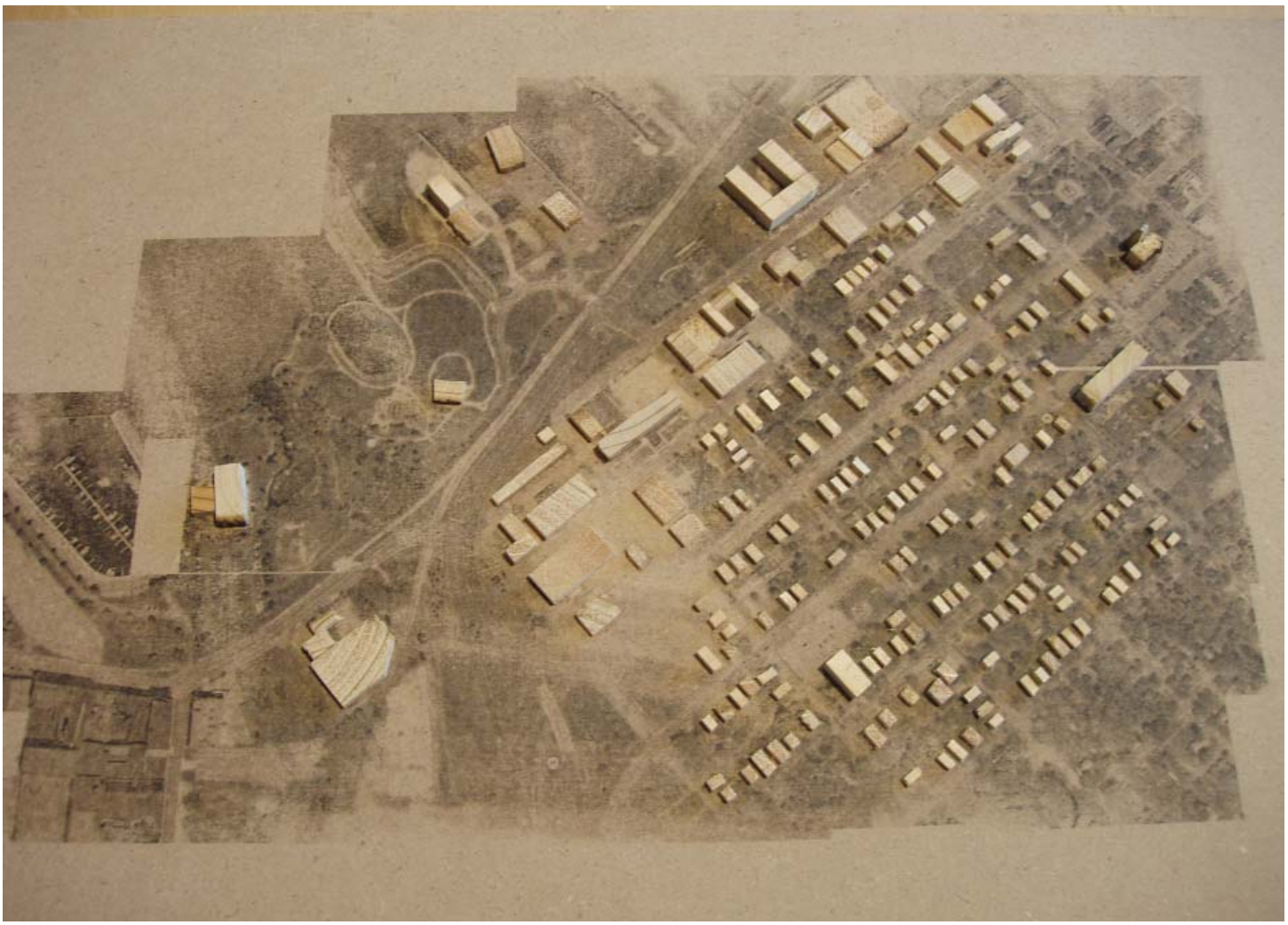
The Downtown site is proposed based on the criteria required to support the programmatic conditions. To support the program, there should be signs of other activities that are reclaiming the post-industrial landscapes. This will help to provide local support for the grass roots organization that will occur following the entrepreneurial business development. In addition, the site should be located in an area that has good visibility and ease of transportation access to draw customers to the retail incubator space.

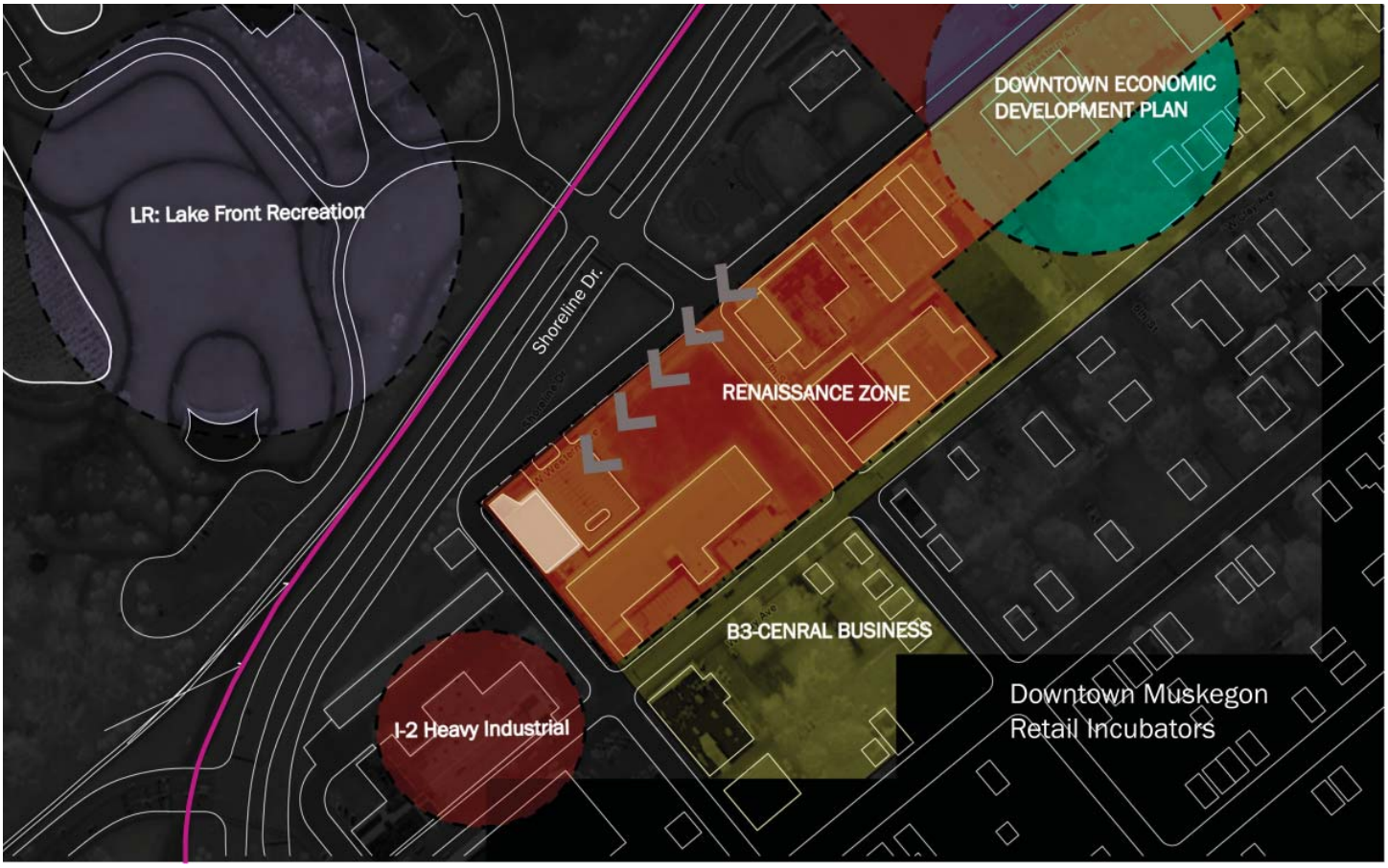
Another advantage is that the site is located in a renaissance zone and offers other tax incentives for small business owners. The city of Muskegon has created an area to spawn downtown development. The site contains a vacant building that was once home to a car dealership. However, It is now on the market for acquisition and is part of the downtown development proposal created by the city of Muskegon. With the help of these credits and local investment, the area is quickly developing into a pedestrian friendly area. This site will serve as a "book end" which is positioned to anchor the pedestrian friendly main street. In addition, this site is adjacent to a historic train depot, witch is planned to be renovated for Hot Rod Harley Davidson. As mentioned in the description of site three, this area is on the direct route of the proposed lakeshore trail which leads to site #03 which is a satellite location that houses the means of production. (see lake shore trail development following this section)

This existing building supports the thesis in terms of responding to the post-industrial economy and serves as a vehicle for the exploration of hard+soft architecture. (figure1) Adaptively reusing this "waste landscape" is one question this thesis will explore.

(figure 1)

Lake Shore Trail




DOWNTOWN ECONOMIC
DEVELOPMENT PLAN
LR: Lake Front Recreation
Shoreline Dr.
RENAISSANCE ZONE
B3-CENRAL BUSINESS
I-2 Heavy Industrial
Downtown Muskegon
Retail Incubators

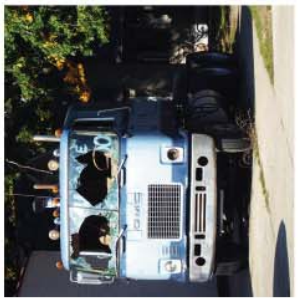





KEN & BEAS
FOOD MARKET


SERIAL
ICATING

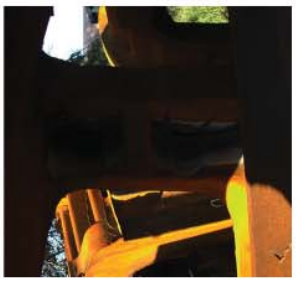









Kayde's



B2B


Lake Shore Trail

Links Retail to Workshop Incubators

The development of the railroads emerged during the industrial revolution. By 1916 the rail network had grown to 254,000 miles . However, in the mid-twentieth century the rail industry began facing significant competition. The trucking industry entered the freight shipment market, air travel became the predominant mode of long-distance passenger travel, and the automobile was used for many purposes. Competition led to declines in the rail industry and significant consolidation over several decades. By the second half of the twentieth century the miles maintained by the entire rail system had decreased by 50 percent , leaving an extensive legacy of underutilized, contaminated, and sometimes abandoned rail properties also known as railfields, across the United States.

Muskegon
Muskegon Heights
Lakeshore Trail Development

Railfields are located in rural, urban, and suburban areas, and vary greatly in size and former usage. Railfields include rail tracks, rights-of-way, rail depots, industrial areas, and other support facilities. Many of these properties provide considerable opportunities for reuse and community revitalization. Their redevelopment can transform blighted areas into resources that meet the needs of the community and support the local economy.

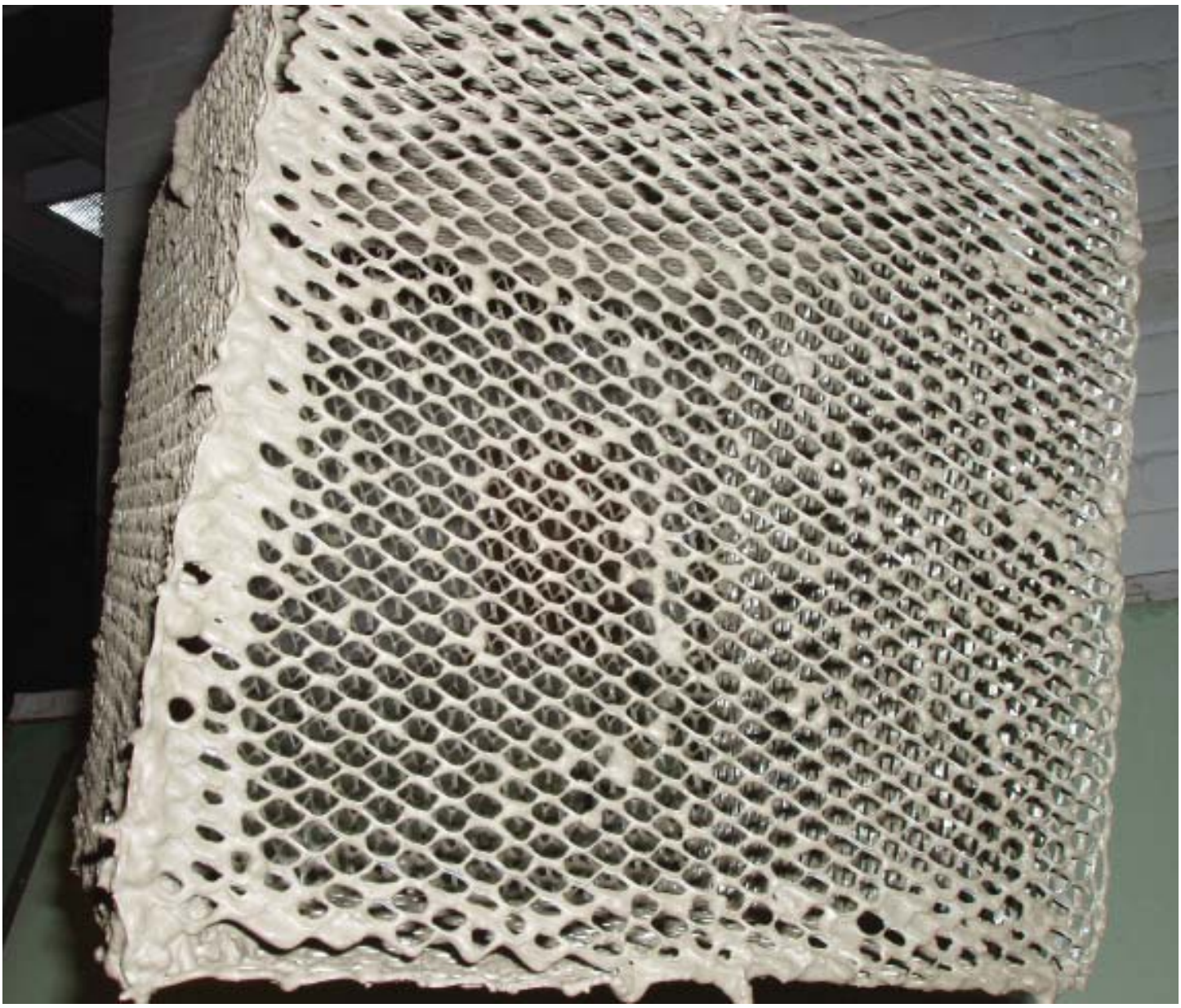
The City of Muskegon, MI with collaboration from the Lake Shore Trail development corporation has utilized these opportunities to transform existing rails to recreational uses. Currently (as of March 2008), the proposed recreational trail will connect fringe development to the urban core and the Lake Michigan lakeshore including Muskegon State Park. The network of recreational trails includes on street routes, future state recreational trails, and an existing lake shore trail that currently connects Muskegon lake to the urban core. This trail development is expected to be completed by 2010.

Utilizing this trail will facilitate connecting the two sites (the Downtown Muskegon, site is a proposed retail while the South site is a proposed workshop) by multi-modes of transportation. Both sites are adjacent to the existing trail development, promoting a dichotomy with entrepreneurs and retail shoppers that may use the trail. This will foster a direct connection between the two sites for entrepreneurs and an incentive to link adjacent communities that have new and emerging entrepreneurs.

(Figure 2) Lake Shore Trail Route (retail incubators, north site)

(Figure 3) Lake Shore Trail Route (Workshop incubators, south site, Anchor facility)

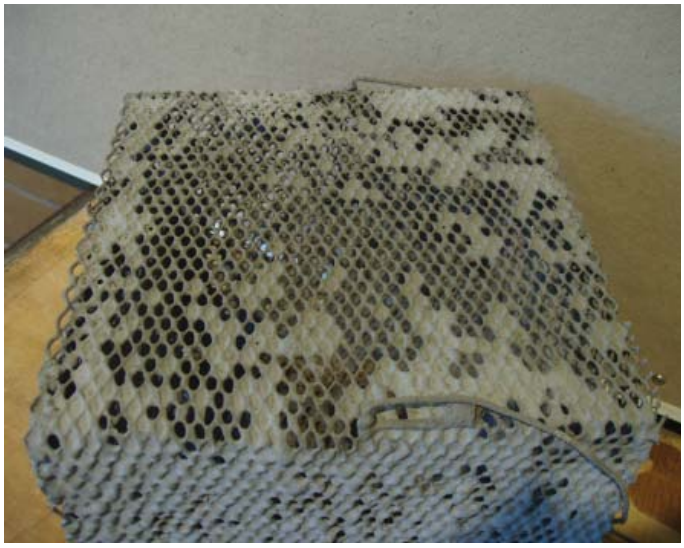
SKETCH



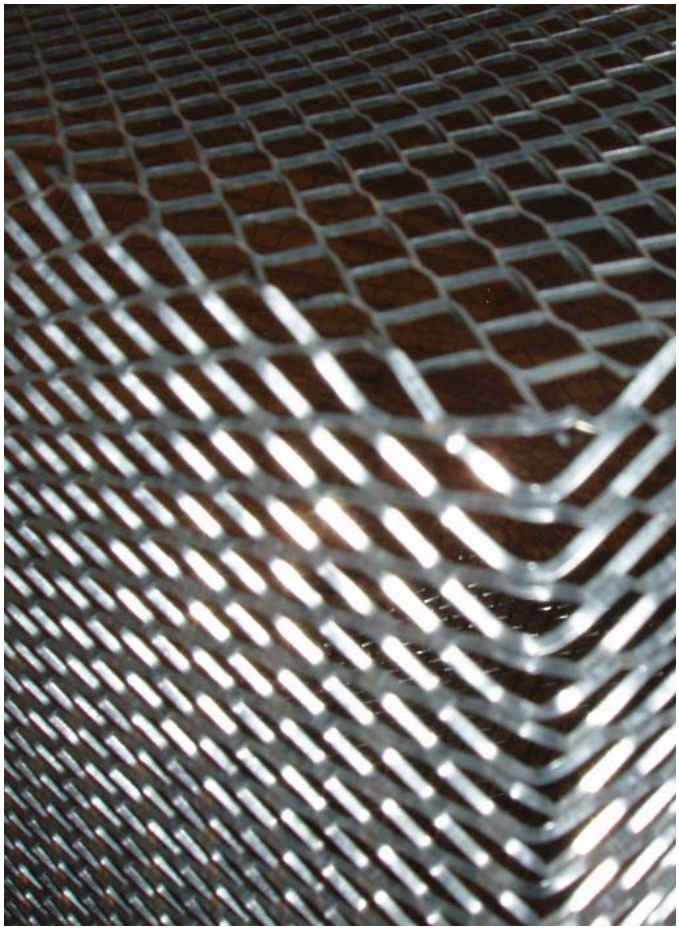
Sketch 01: CUBE

Metal Mesh + Concrete

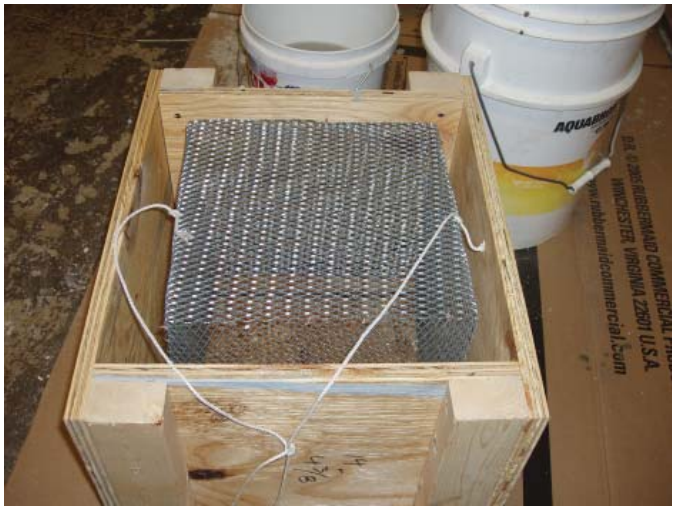
This sketch problem is from a series of studies called the cube project. These projects are focused on conventional materials typically found at any building supply store or materials that are typically recycled or discarded. Every Home depot shelves similar supplies and construction materials except for the few exceptions concerning local governing codes that may influence inventory. How can we use the readily available materials to make architecture? How can we use the common and inexpensive supplies found at Home Depot and transform them into new uses? How does this relate to hard + soft architecture?



The metal Mesh + Concrete exploration, challenges the use of the wire mesh and concrete mix. The mesh is typically used as a substructure for applying scratch coats of cementitious mixtures for adhering manufactured stone. In this case, the mesh is formed into a cube and dipped into a cementitious mix that yields a unique and authentic result. (figure 1) It is similar to cracking an egg in the palm of your hand, the egg never cracks the same way. In this sense the making of the cube is unique as compared to the homogenized use of standard and conventional materials.



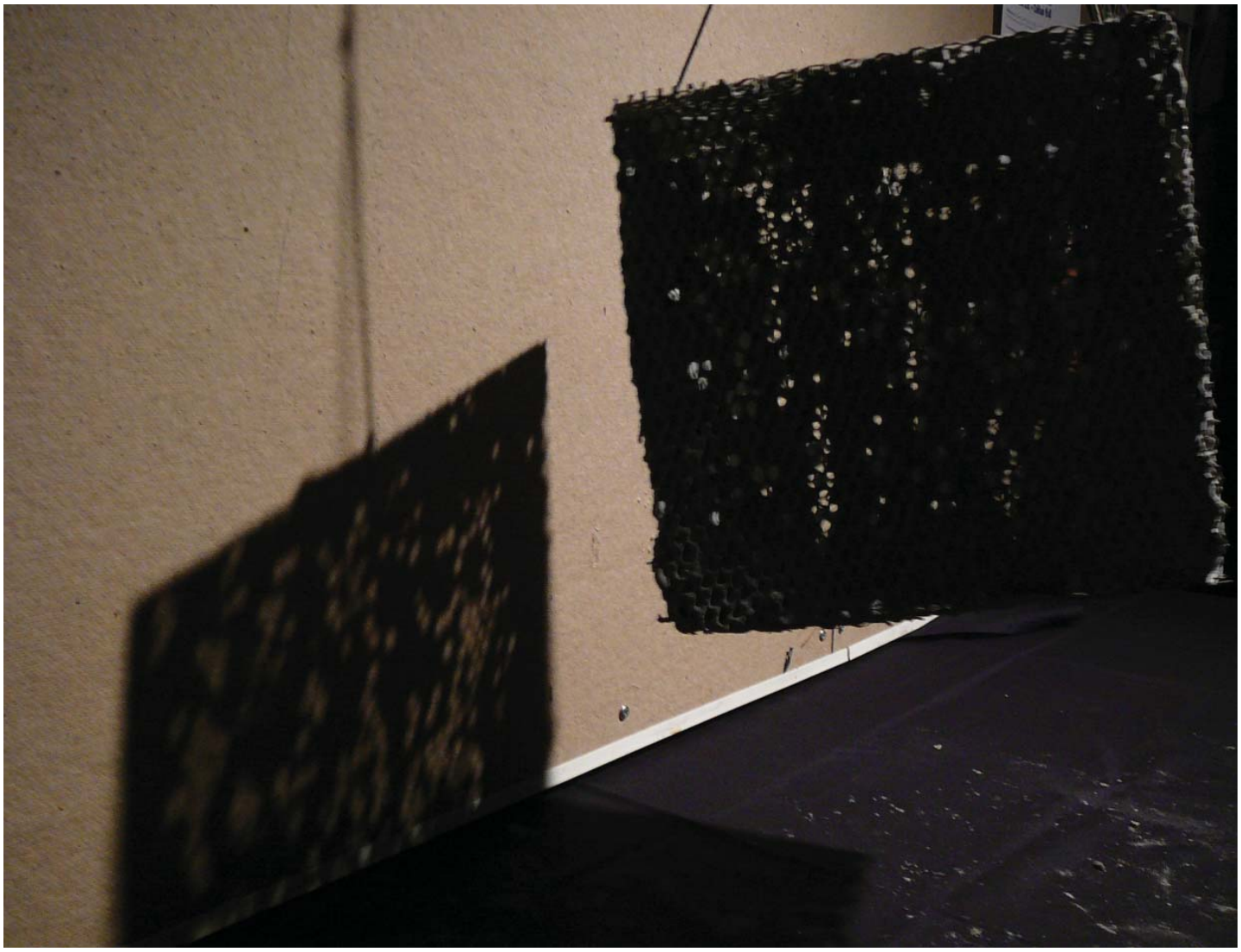
The cheap and common building materials found at the building supply store can be manipulated to create new uses. But how can they create a hard + soft dichotomy? There is a direct relationship to the thesis and program in which the hard versus soft bodies of architecture are systems that directly react to the dynamic changing economy. In this case the need for changing spaces within the program can lead to a range of details that facilitates these adaptations. What may be hard is the permanent space while the soft space may be something that is temporary.



(Figure 1)

How can we make concrete appear light weight and temporary? For example, lets say we have a particular place located within a building that is more ephemeral. The space changes continuously and requires new uses every three years. Maybe the concrete mesh forms a place within the building system that can be inserted temporarily. After the space expires it is easily dismantled and stacked for future use.

Metal Mesh + Concrete



Sketch 02: CUBE

Copper Snap Tie Wall
+ Form re-use

The copper snap tie wall is an extension of the concrete + mesh exploration. This exploration is another challenge to the use of conventional materials and construction techniques. The medium is typical concrete mix and copper wire.

A small spool of coper wire was a found at a construction job site. The copper wire is conventionally used as the main feed of electricity. The wire was pulled apart, unraveled and looped for an unexpected use. How can copper be used with a conventional bag of concrete mix?

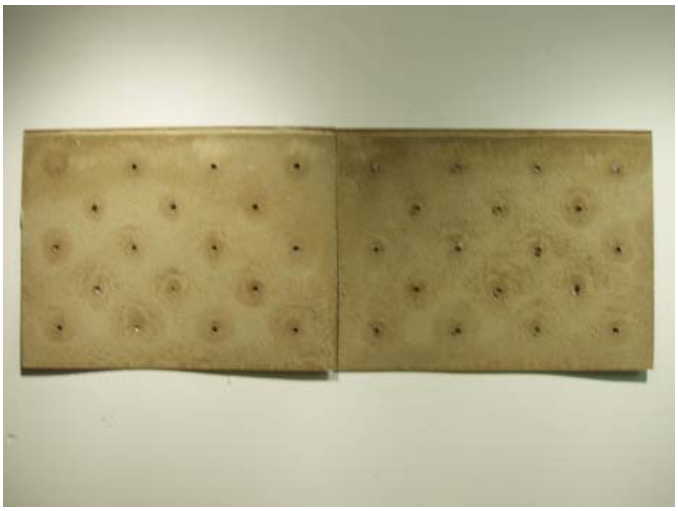
This experiment challenges the process of pouring a concrete wall. The typical process to construct a concrete wall requires forms to be set-up with ties that hold the forms together, and rebar is placed in the cavity before concrete is poured into the forms. After the concrete cures, the forms are removed, leaving remnants of the ties that once held the forms together. These ties are typically snapped off and capped to seal the concrete. Is there a way to reveal the ties without snapping them from the walls? What if the ties could be arranged in a way that would dictate the form as a result of poring the concrete. How much will the weight of concrete push on the forms?

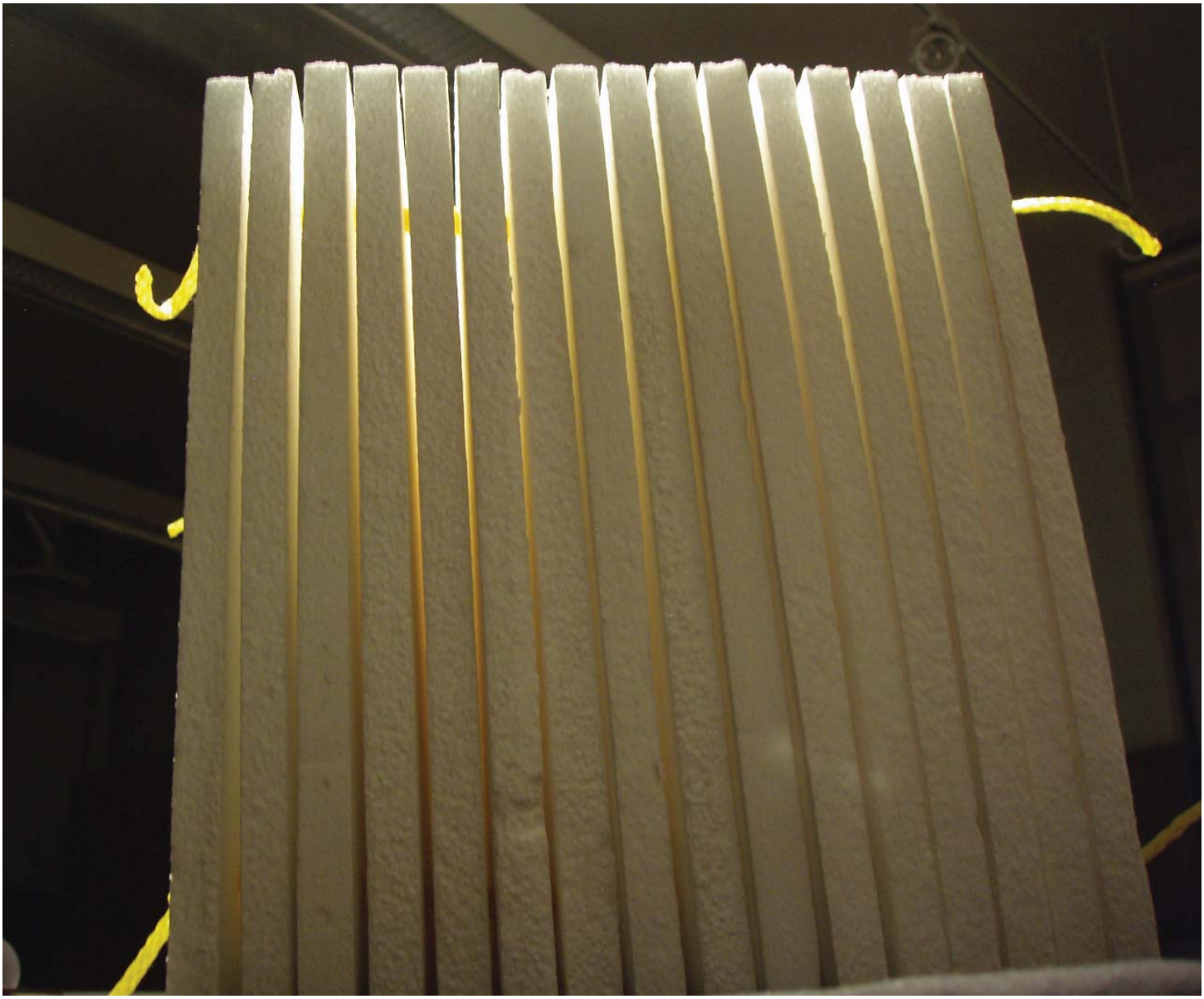
In addition, the making of the copper snap tie wall offered an opportunity to re-use the formwork that molded the concrete. When the forms were removed the process of making provided an unanticipated event. The process of making the snap tie wall included the creation of portals that allowed the ties to poke through, open up and resist the weight of concrete pushing against the form. As the concrete cured, the concrete naturally adhered to the formwork.

This process created an unanticipated appearance and texture on the formwork. The pattern that resulted from drilling the formwork allowed the forms to be hung adjacent to each

other as modular panels. The actual making of the copper snap tie concrete would be inherent within the formwork creating a connection to the actual process of construction. The forms are evidence of the construction as making. In response to this, the thought of re-using the materials required for the process of construction came to light. Why not use what is left over from conventional construction techniques?

As a challenge to the conventional construction techniques, if the construction process embraced the process of making, each scenario will yield a unique environment that cannot be replicated. They would be specific to the place in which the actual making occurred.





(figure 2)

Sketch 03: Cube

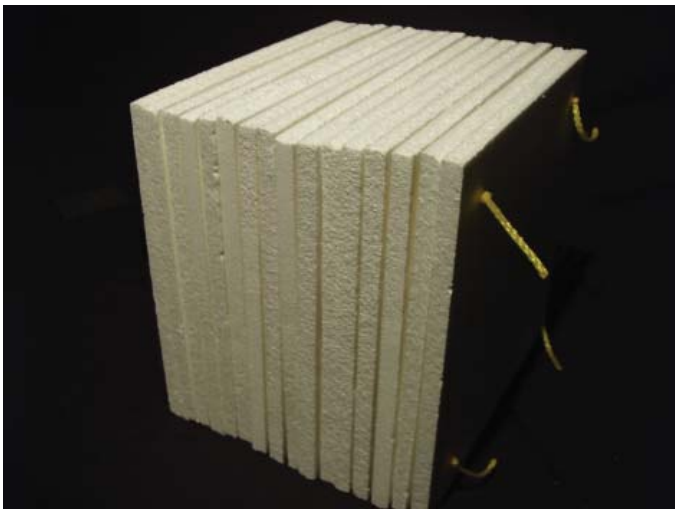
Material re-use

These are investigations of material re-use.

The carpet squares were originally used for an existing office space for Gemini publications, publisher of the Grand Rapids Business Journal. Gemini required a new look for the growing publisher and as a result the existing build-out was dismantled for a new use. As a result materials, work stations, ceiling tile, polystyrene acoustical board, and carpet squares were tossed and replaced with new up-to-date finishes. Why send these building materials to the landfill when they can be re-furbished or used in new ways that challenges their conventional use. The carpet stack is a statement that examines these ideas(figure 1), while the polystyrene is an extension of this exploration.(figure 2)

However, these explorations were not examined in depth. To actually challenge the conventional use and adaptively re-use these materials will require further investigation.

(figure 1)



(figure 1)

Sketch 04: Program

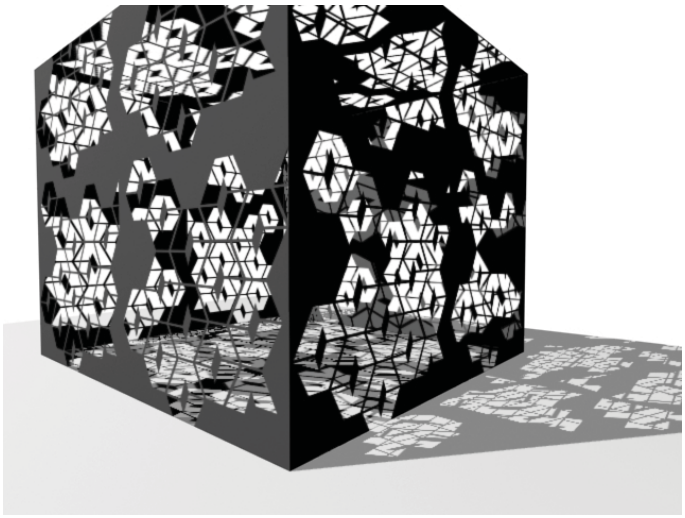
Progrommatic Exploration: Gathering, Tattoo

These explorations are investigations of programmatic conditions. How can the program become a vocabulary for details of a wall section or material selection?

One of the original grassroots start-ups for the business incubators is a tattoo artist. What does the tattoo space look like? How does the process of tattooing inform design decisions? The tattoo wall investigates the process of tattooing such as puncturing and pigmenting of the skin. What would this look like if we zoomed in to the tattooing process. One architectural response is a metaphor for the tattooing process in which a pattern of puncturing tubes is covered with a heavy plastic skin. (figure 1)

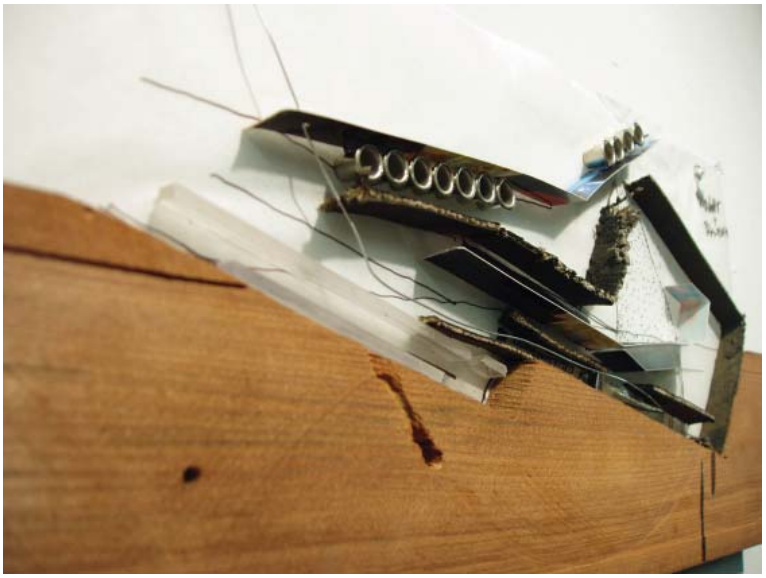
The grassroots organization will require a place for entrepreneurs to come together and share ideas about there business ventures. What kind of atmosphere will facilitate the interaction among entrepreneurs? Each individual brings different ideas and creativity that creates a synergy of the whole (a group of people are more successful than a single individual). As a metaphor for the gathering of entrepreneurs, each individual v-shape is similar, yet has individual qualities like the group of entrepreneurs coming together. For example, one study investigates a collage of various materials all cut to the same v-shape. This material pallete includes, nine ply birch plywood, 3/4" particle board, 1/2" fiberboard, and 3/4" medium density fiber board. This is a synergy of different material qualities that come together as a whole to create a unique texture, and appearance. (figure 2)

(figure 2)

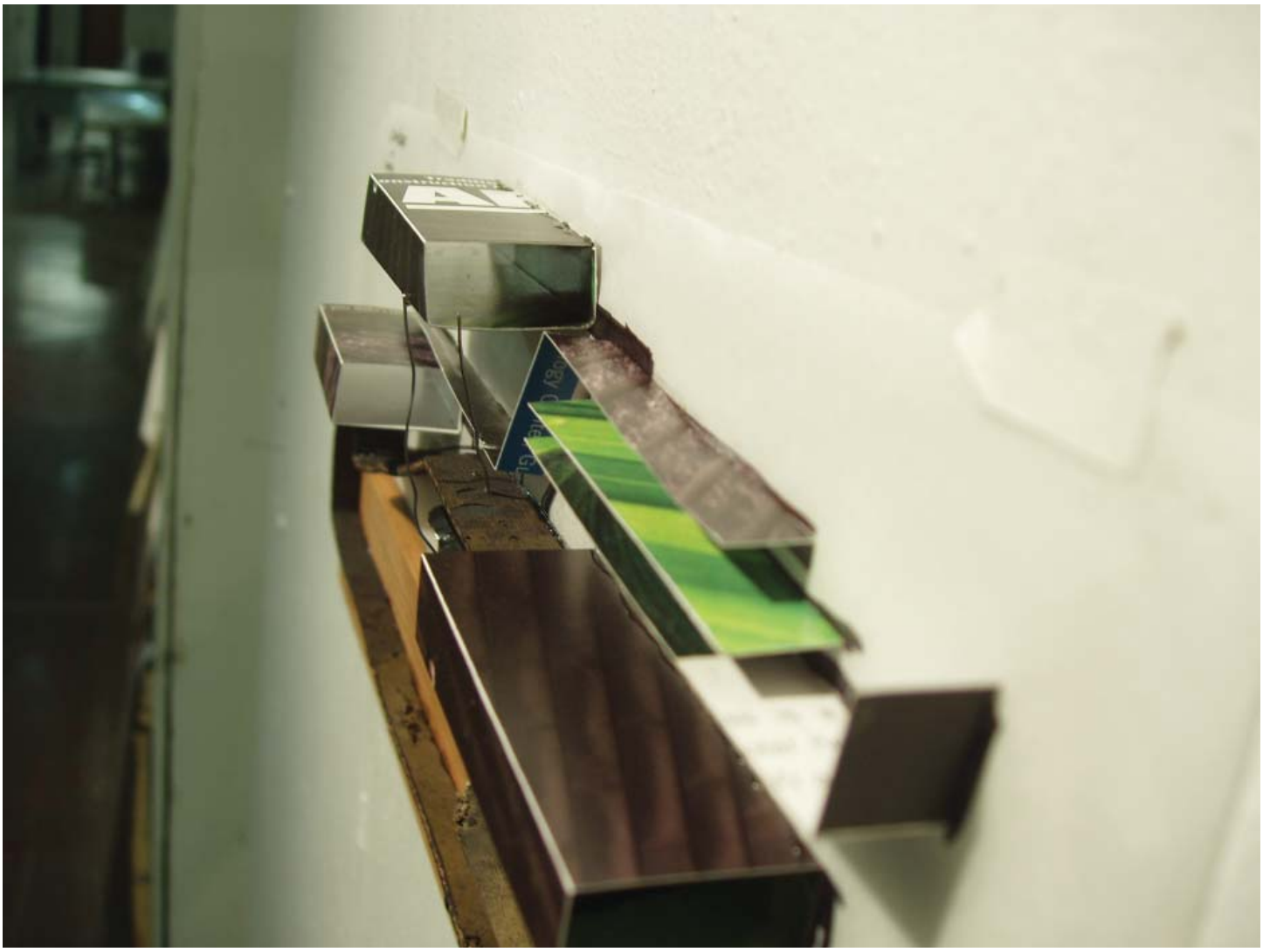


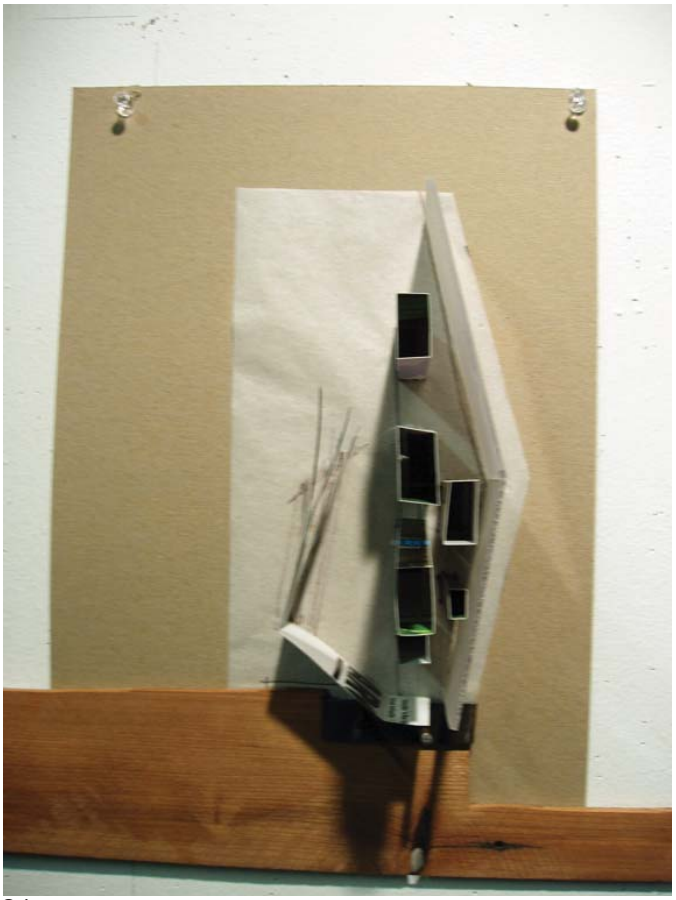
SCHEMATIC DESIGN

Schematic Design_section studies



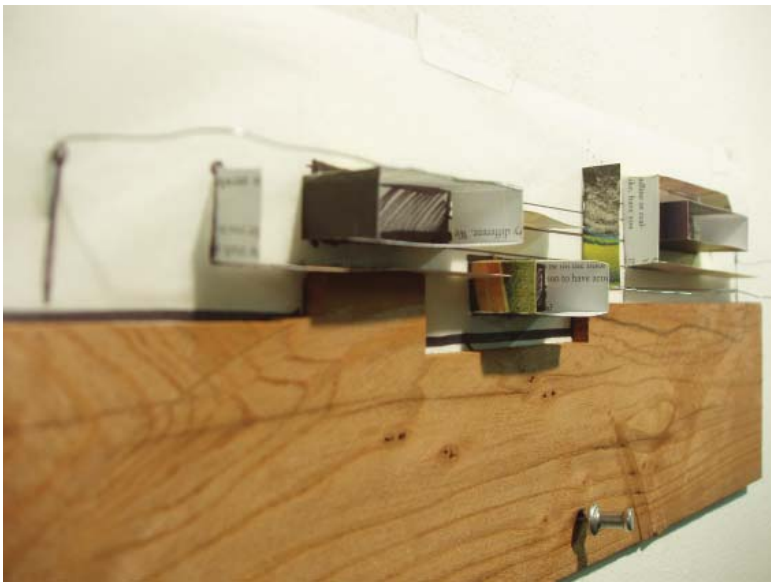
These explorations investigate sectional possibilities of the business incubators.



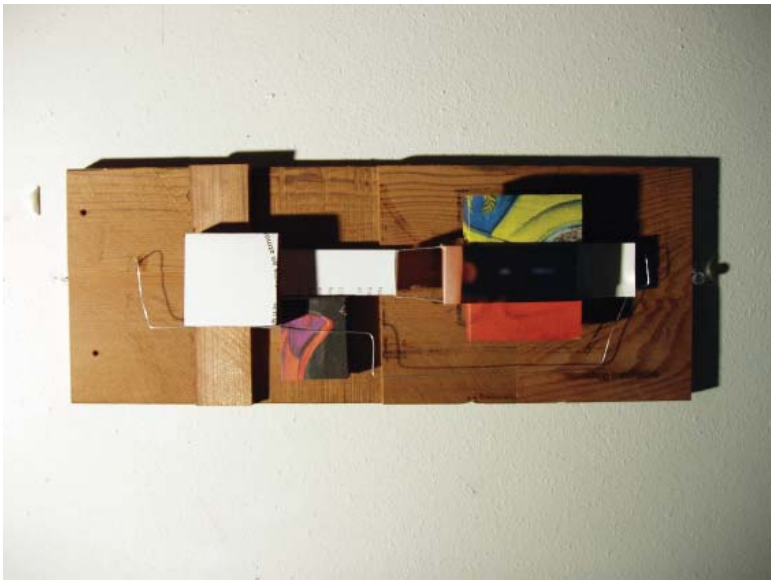


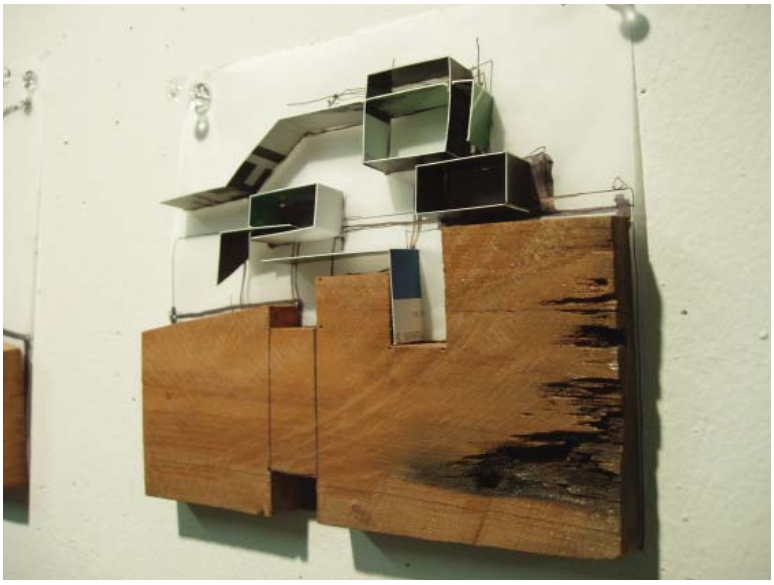
In Muskegon, Lake Michigan affects the micro-climate with heavy snowfalls and heavy winds during the winter seasons. This section investigates opportunities to capture the snow and place it in a basket, creating a dichotomy of the interior and exterior.

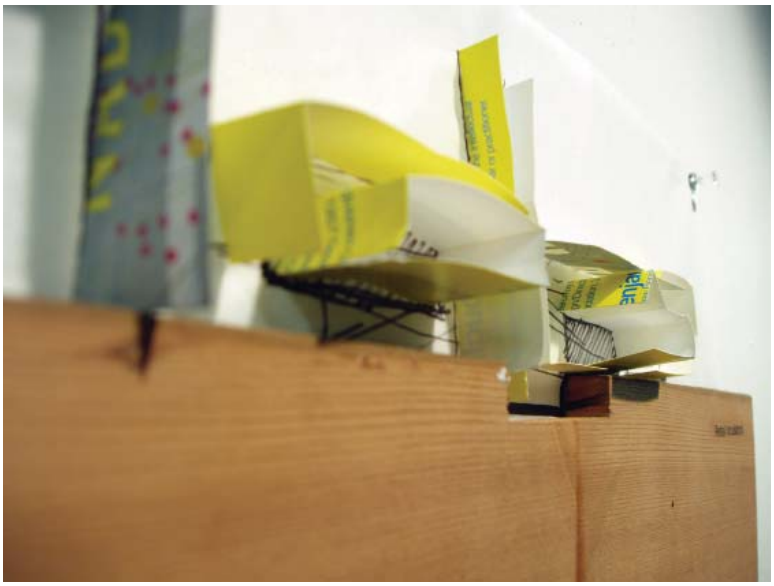
This is an investigfation of a flexible structure that can collapse and unfold based on the transfer of weight.

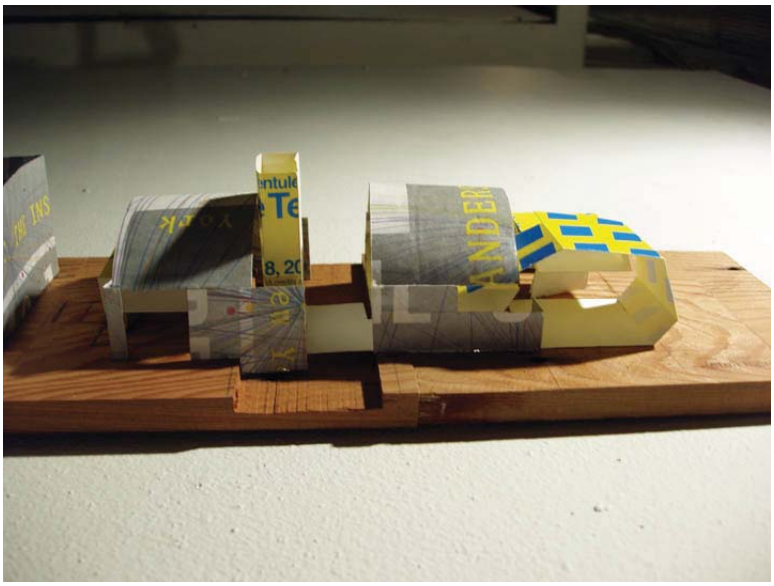


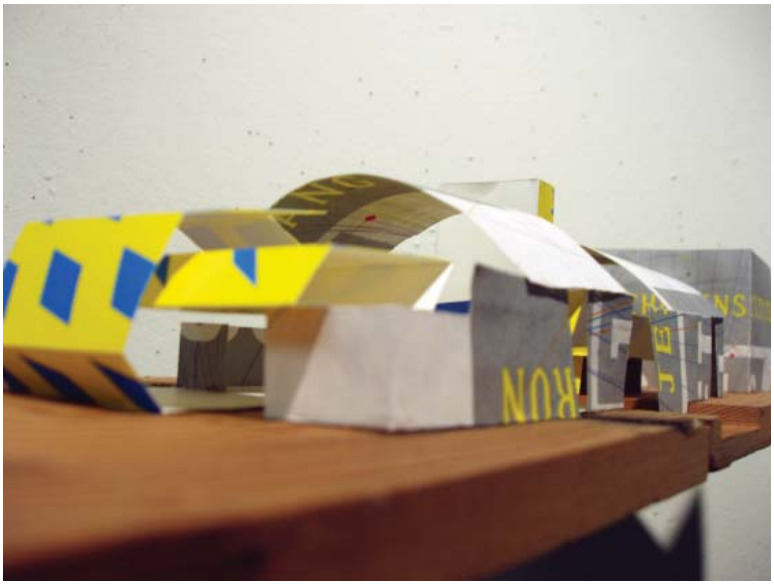
However, The sectional explorations should be acknowledging the actual programmatic conditions. How does the program interpret the site? Both the program and site are loosly acknowledged in the design explorations. Each programmatic space is governed by the hard and soft bodies approach. The boxy forms are considered soft spaces, while the bands that wrap around these forms are hard/permanent.

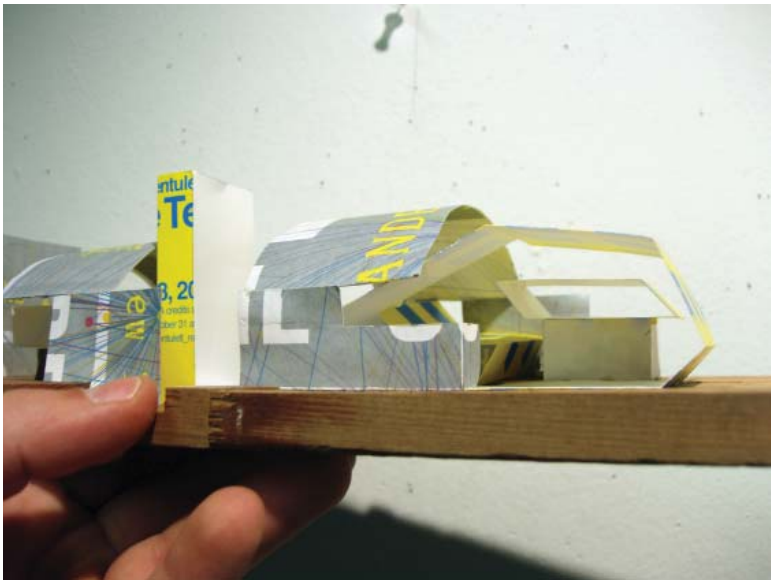








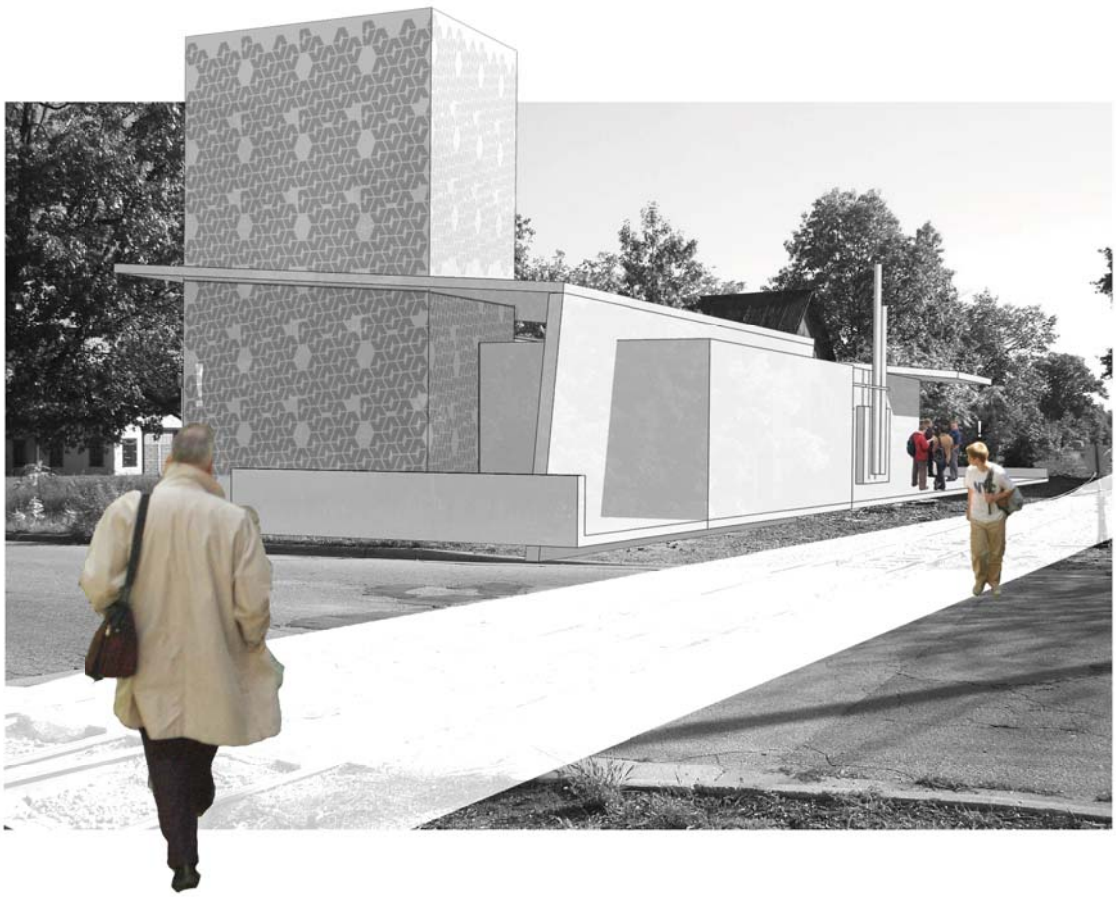




This is a series of investigations of the possibilities of introducing a new program to the existing building located in downtown Muskegon. What part of the business plan will occur at the downtown building. How do you approach the existing building? Does it treat the building softly? Does it radically cut it up and transform the building. From a pragmatic point of view, the downtown building should be treated lightly. The insertions that will occur are less permanent. These insertions (entrepreneurs) will change periodically, so how does the retail incubator become a canvas for the future small business owners? The building should be thought of as having a small budget for renovations yet the insertions may be explicit and detailed specifically for the entrepreneurs. Can the existing building break down into smaller parts where certain areas maybe shared spaces such as education or technology and equipment?

These are soft spaces that are inserted into the existing building. The soft spaces house individual entrepreneurs that are temporarily using the retail incubator. The entrepreneur inserts spaces that attach and detach to the hard bodies of the existing structure. The Insertions are thought to be mobile. After the entrepreneur is finished with start-up assistance from the incubator, they pack up their spaces and take them to the next destination.

(figure 1)



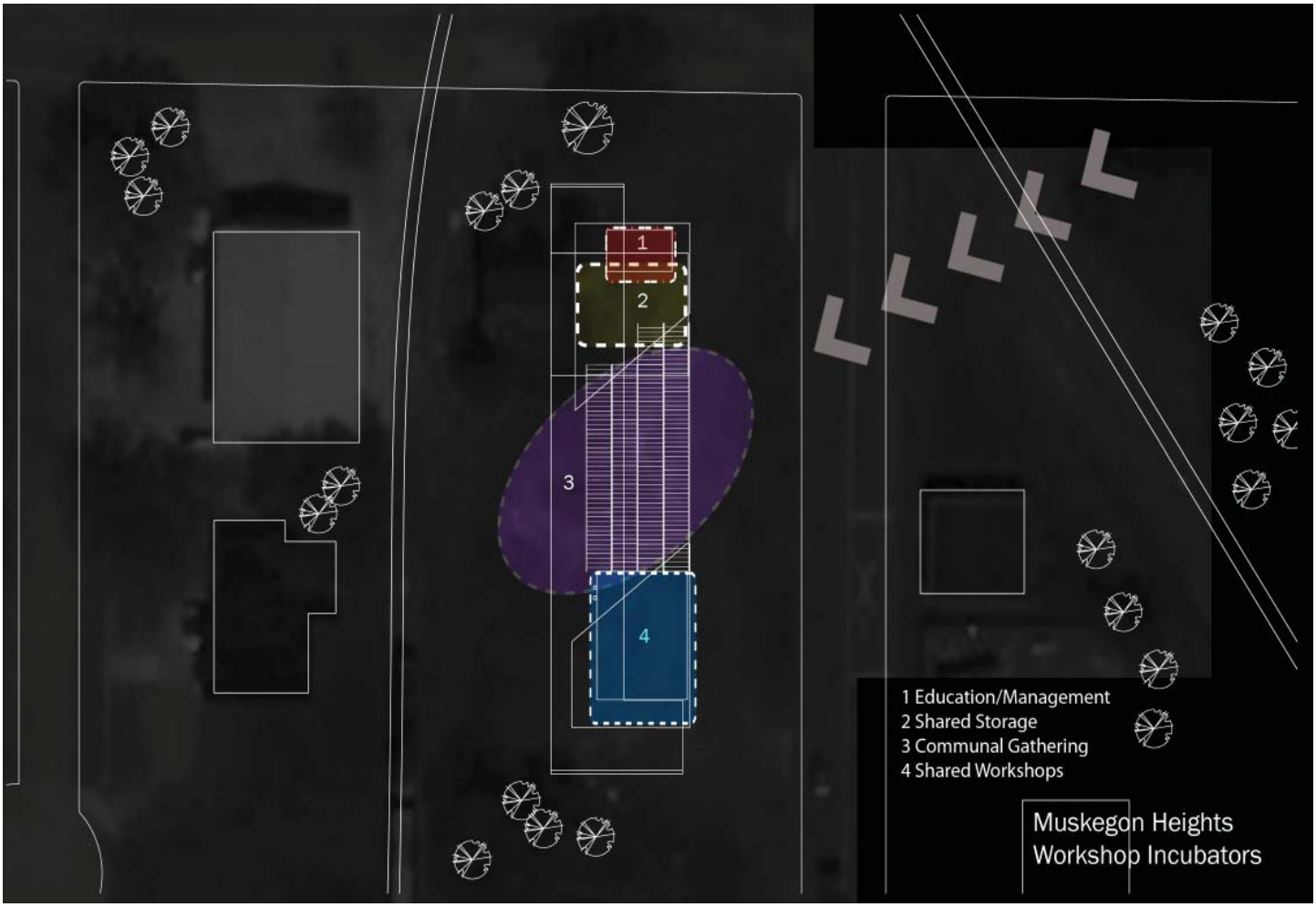
Site 03: Muskegon

Workshop Incubators _ Muskegon Heights

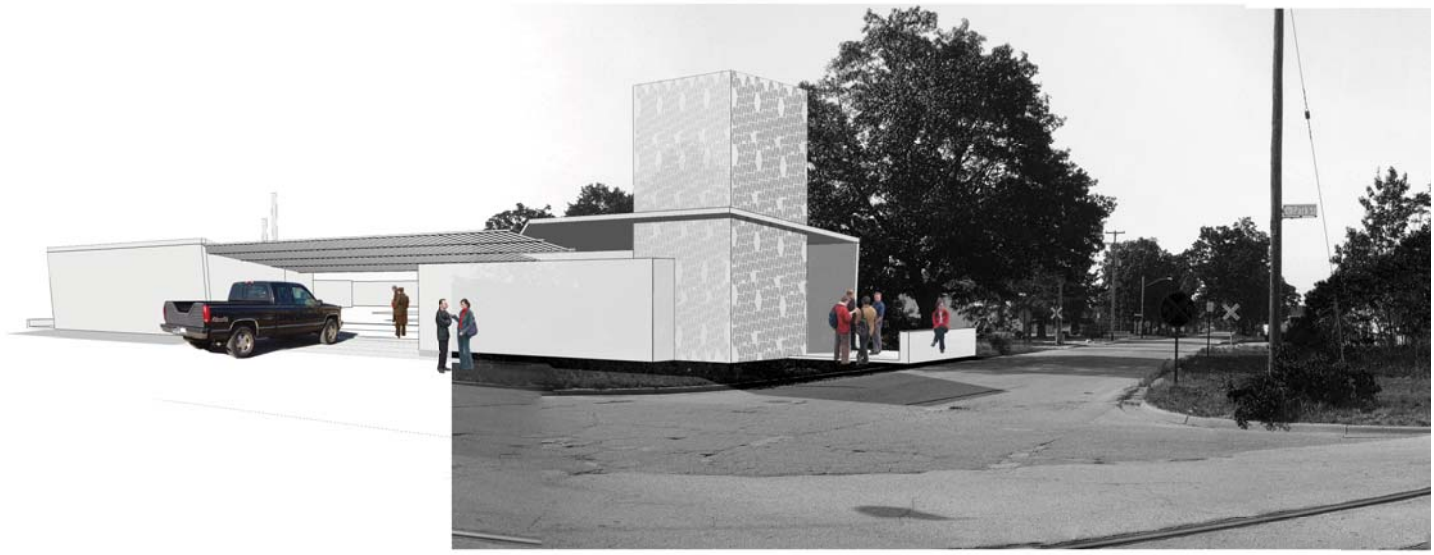
The works shop incubators explore hard and soft architecture by acknowledging programmatic conditions, the lake shore trail development, and the neighboring community.

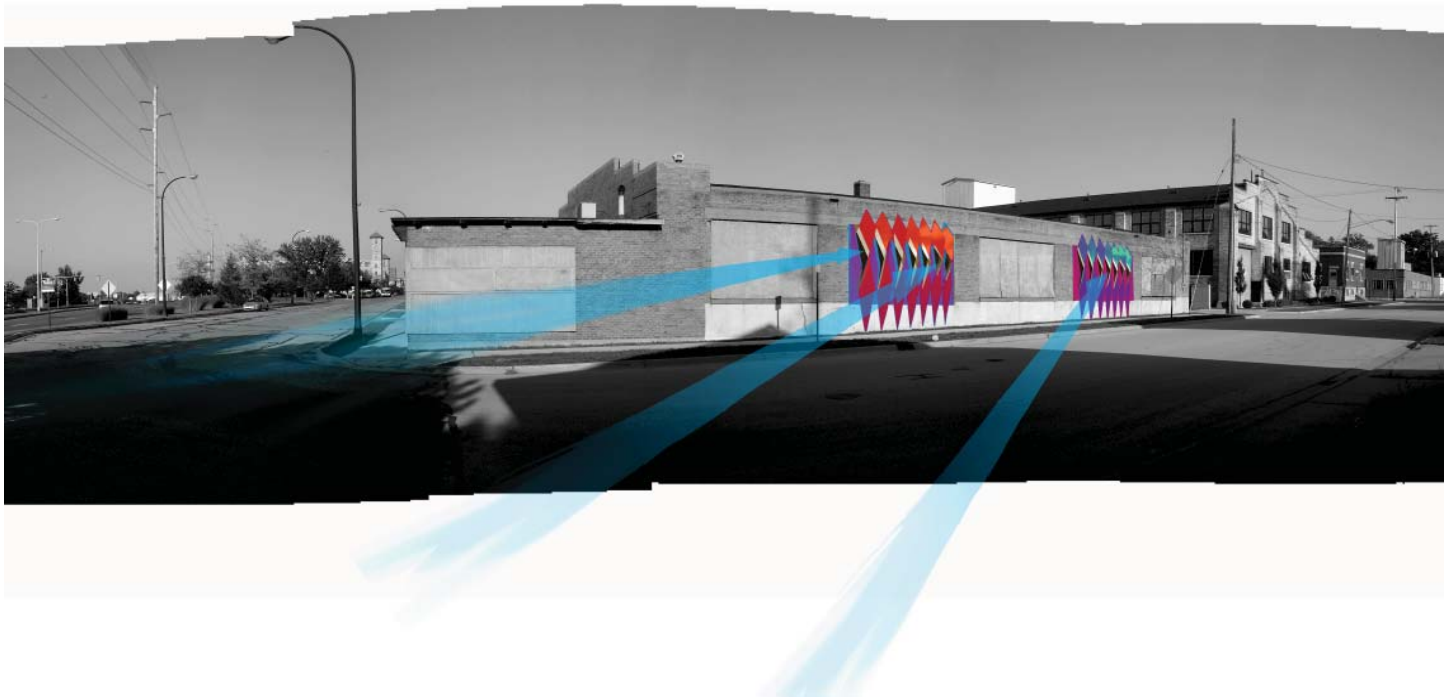
First, the required start-up program was defined in terms of hard and soft spaces. Hard spaces are the education, management, and communal gathering areas. Soft spaces are shared storage and shared workshops that are expected to expand and contract over time.
Second, the neighboring lake shore trail runs parallel with the site. In order to utilize the trail advantages, the communal gathering space is designed to open up to the neighboring trail to allow for engagement with the recreational users as well as facilitate the connection to the downtown retail incubators. (figure 1)

(figure 2)


1
2
3
4
1 Education/Management
2 Shared Storage
3 Communal Gathering
4 Shared Workshops
Muskegon Heights
Workshop Incubators

Another key driver for schematic design is the consideration for the surrounding context. The workshop incubator is located within an industrial zone, however; two blocks away a residential neighborhood hugs the edge of this area. The intent of the design is to open up this area to draw local entrepreneurs and serve as a conduit to the alternative economy that is emerging. (figure 2)





(figure 1)

Site 04: Muskegon

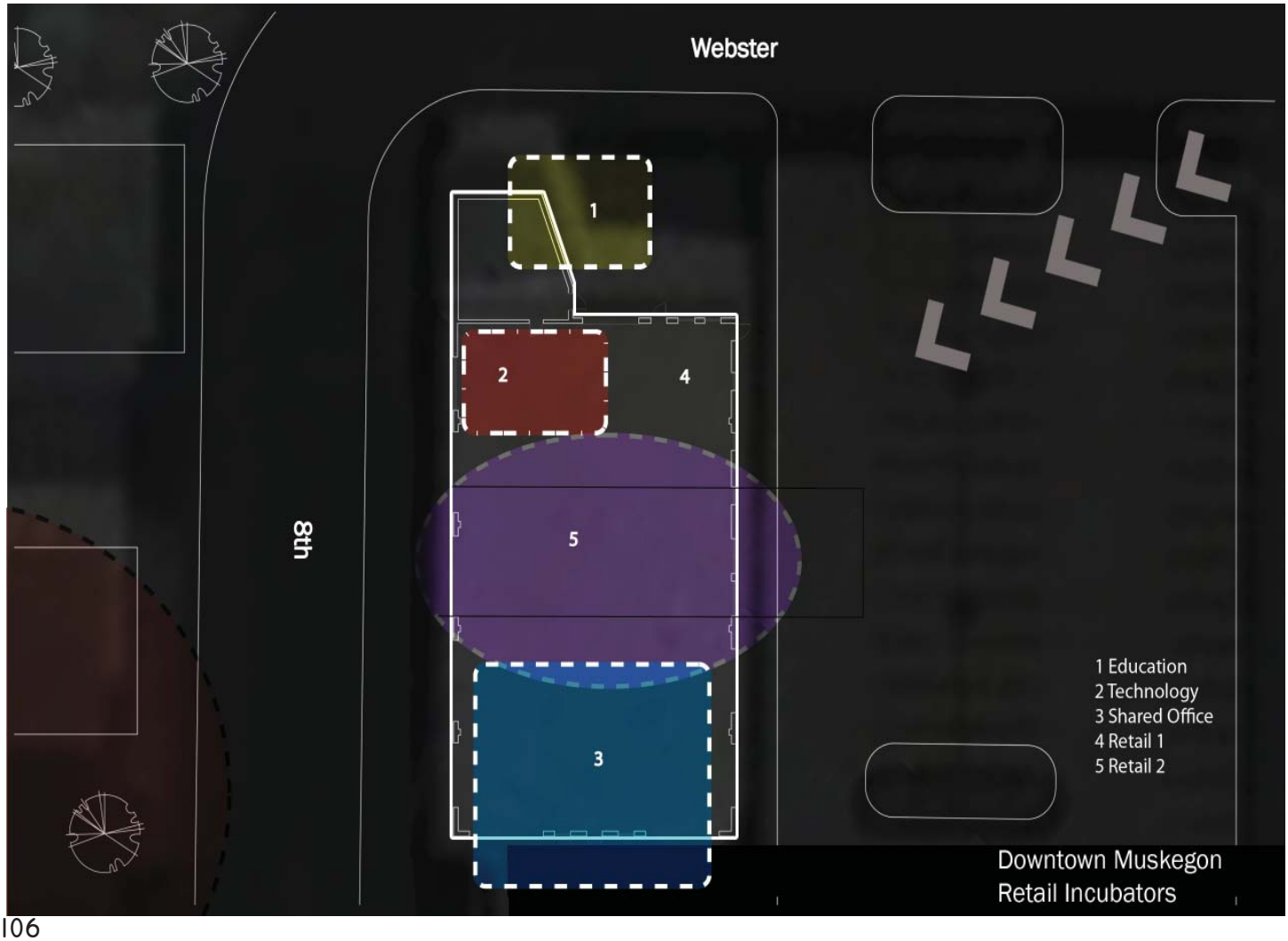
Retail Incubators _ Downtown Muskegon

The Retail Incubator site in downtown Muskegon requires minimal revisions to the existing building. The hard space is the existing building which serves as an attachment for the soft spaces. These soft spaces house the entrepreneurs who will set up and pack up as needed. As the grassroots organization fluctuates, the building will directly respond to the changing necessities. The location of the retail incubators was selected based on requirements that allow retail to occur.

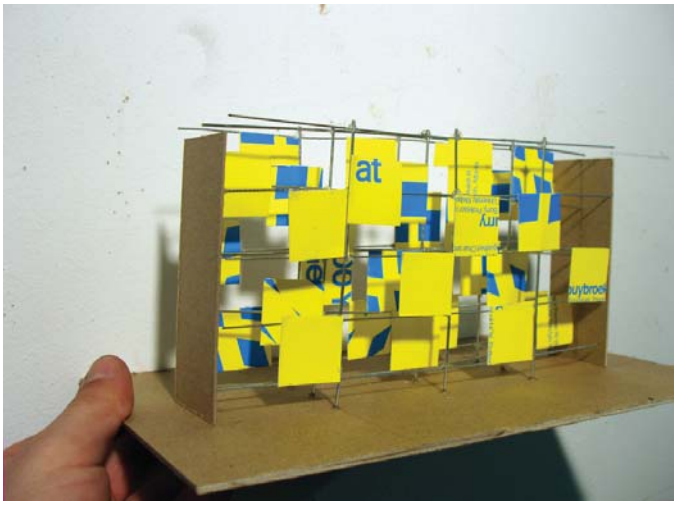
This schematic design explores potential opportunities to advertise internal services. The intent is to create a front door that welcomes the adjacent recreational trail users. The front door also acknowledges the downtown economic development in which the building acts like a bookend to the pedestrian friendly street that opens up to pull customers to the faculty.
(figure 1)

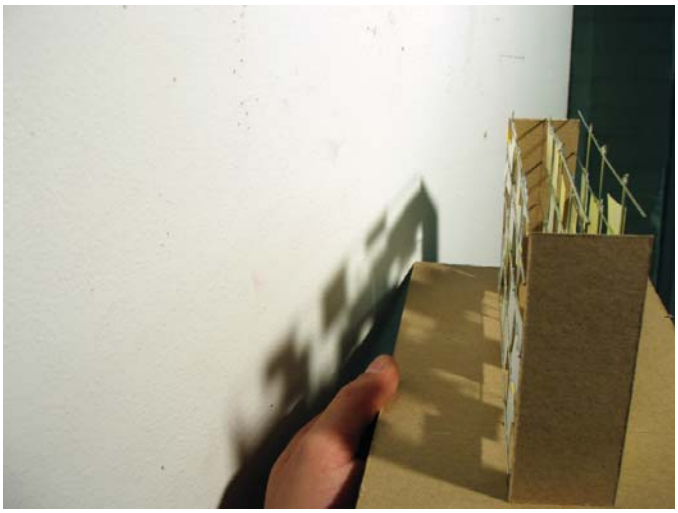
This study also investigates micro-climate opportunities. How can the Incubator use the climatic conditions to its advantage? The retail incubator is directly within range of wind streams coming across Lake Michigan. Summer winds coming across the building was investigated to provide natural cooling, while day lighting strategies are considered at the core of the facility. (figure 2)

(figure 2)

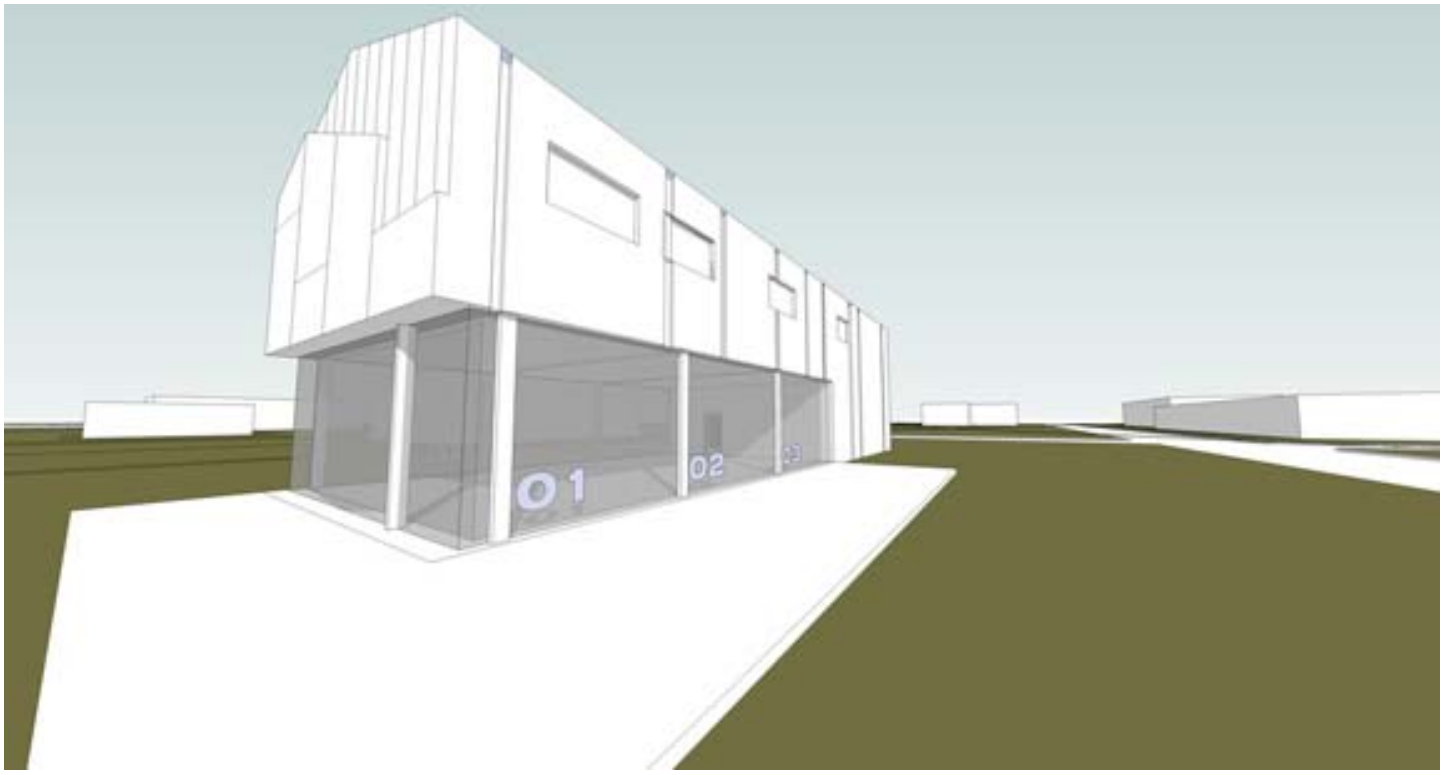

Webster
8th
1
2
3
4
5
1 Education
2 Technology
3 Shared Office
4 Retail 1
5 Retail 2
Downtown Muskegon
Retail Incubators

Another exploration investigates how to open the dark and cold existing building to facilitate attachment of soft spaces. The panel wall explores possibilities of a dynamic changing façade that opens and closes based on entrepreneur necessity. For example, the tattoo man may need an open space for displaying work, while the tattooing procedure may need to be concealed privately. The panels move open to allow views in or close together to conceal private work. (figure 3) This would be a dynamic changing system that accomodates the progrommatic conditions of the the retail incubator.





(figure 3)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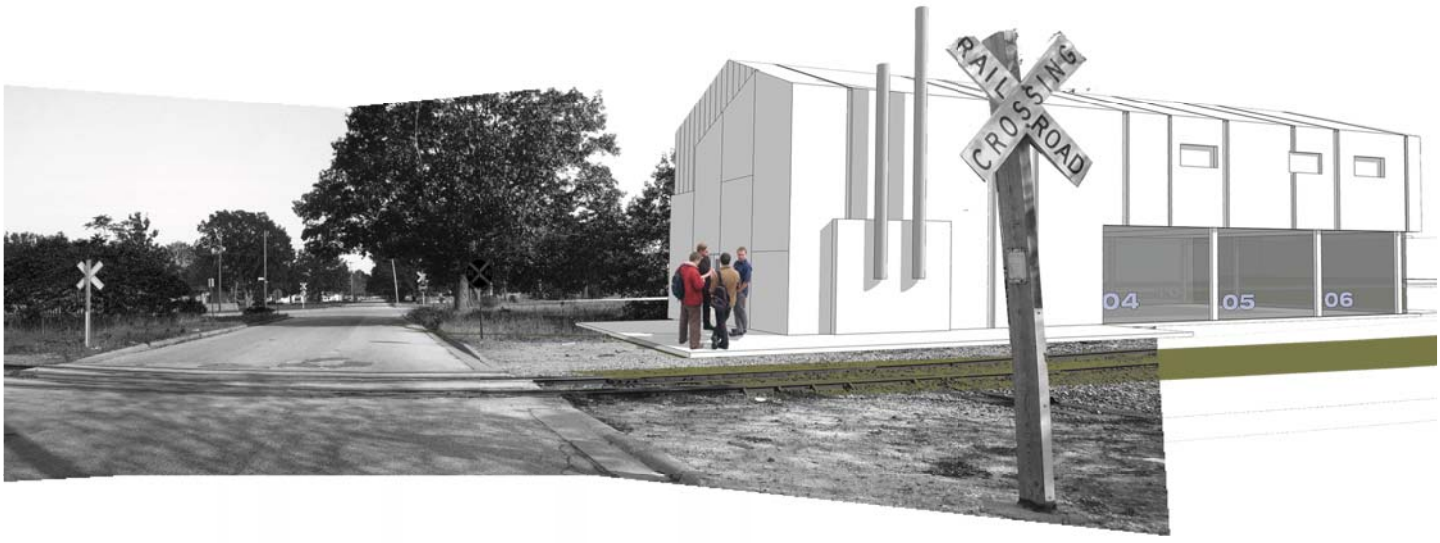
02


RAIL ROAD
CROSSING
04
05
06

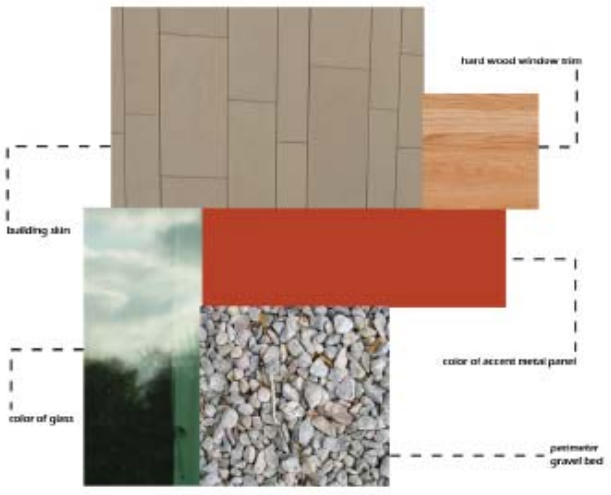
Site 03: Muskegon

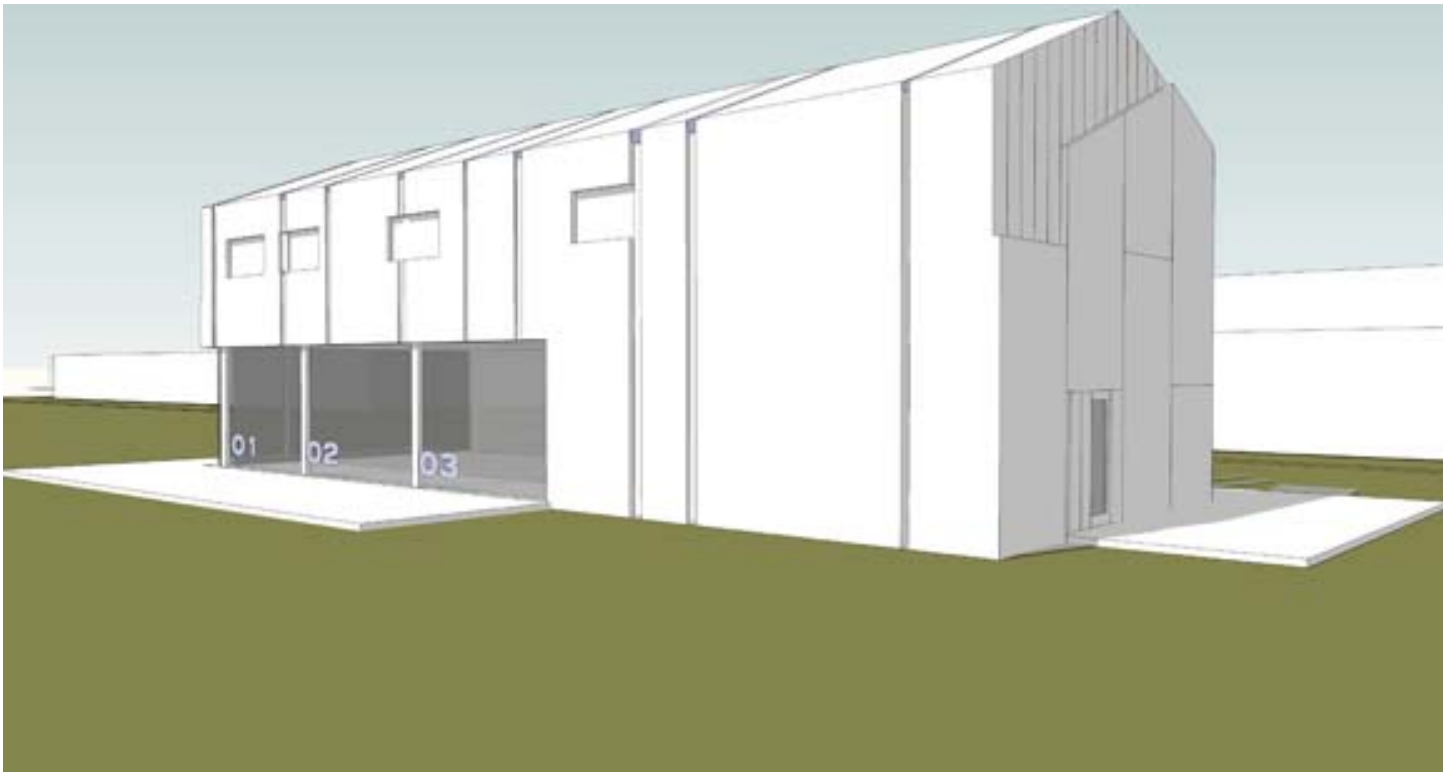
Workshop Incubators _ Muskegon Heights

This is a sketch that investigates the programmatic condition required for the workshop incubators with a focus on personal amenities. The sketch also explores simple construction techniques with a concern for a grassroots organization that emerges out of necessity.

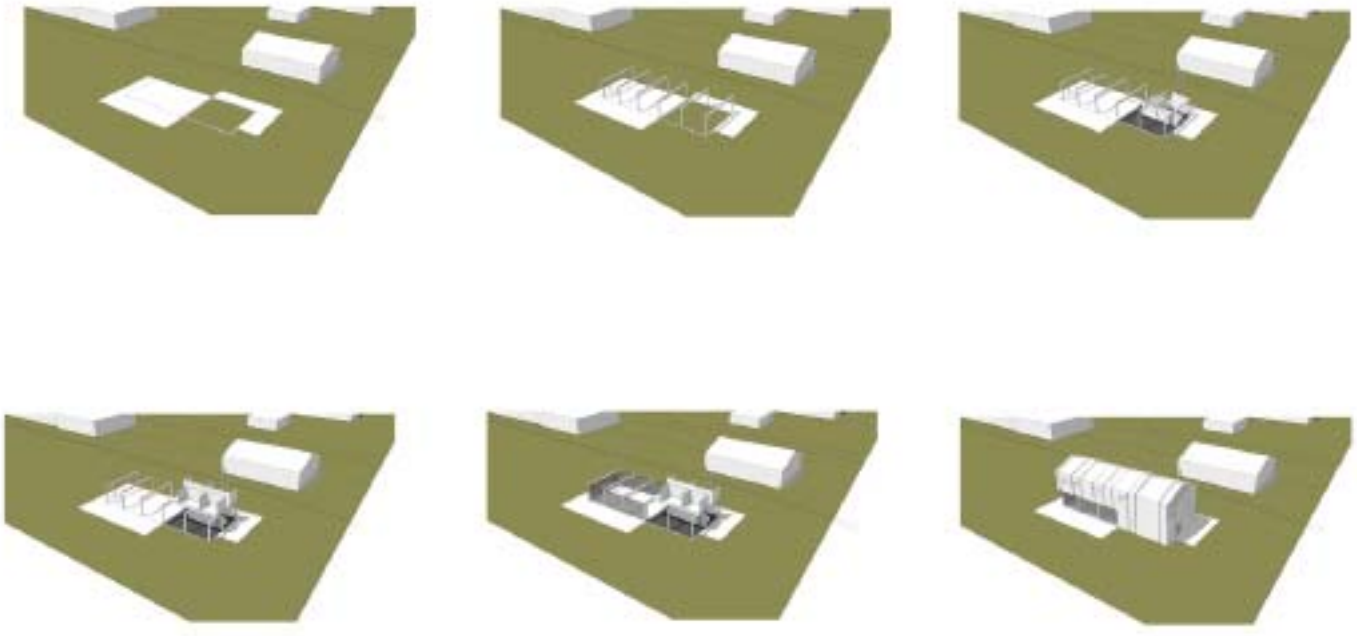
The program for this sketch investigates how to create a shared space for entrepreneurs. The idea is to separate the shared space from the private spaces reserved for management activities. This exploration creates open space which is reserved for the entrepreneur to freely complete as necessary. This means that each entrepreneur may bring his/her tools required for the shop activity and thus modifies the space by adjustments according to personal needs.

The building form emerges from the notion that this organization is emerging with little or no money for start up costs. The idea is to design with off the shelve materials found at a Home Depot. The construction system is post and beam with standard wood trusses to create open barn like spaces that would require less skill and labor than a conventional wood frame building. (figure 1) The simple barn form is detailed to appear as if growth occurred on an existing subject. Small suppressed bands wrap around the form to appear like a horizontal stack. (figure 2) This sketch is intended to be a small structure that is cheap and easy to construct that provides small spaces that are reserved for the immediate necessity of the program. However, this sketch lacks the hard and soft bodies approach this thesis seeks to investigate.





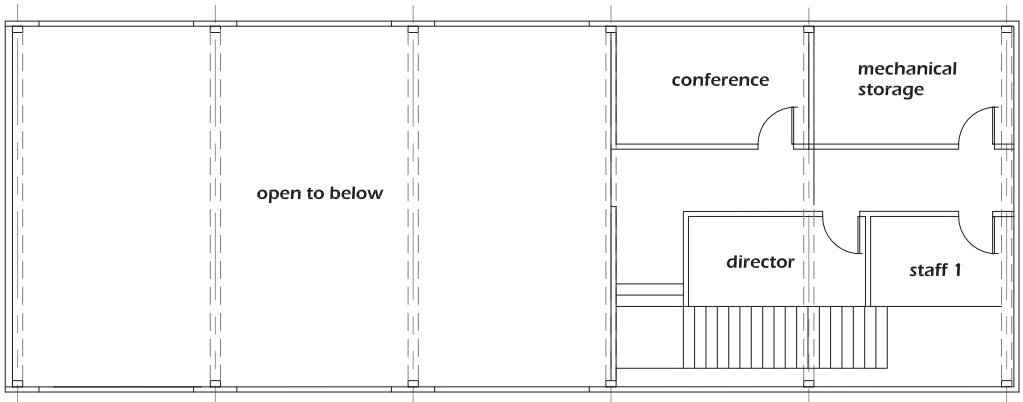
(figure 1)



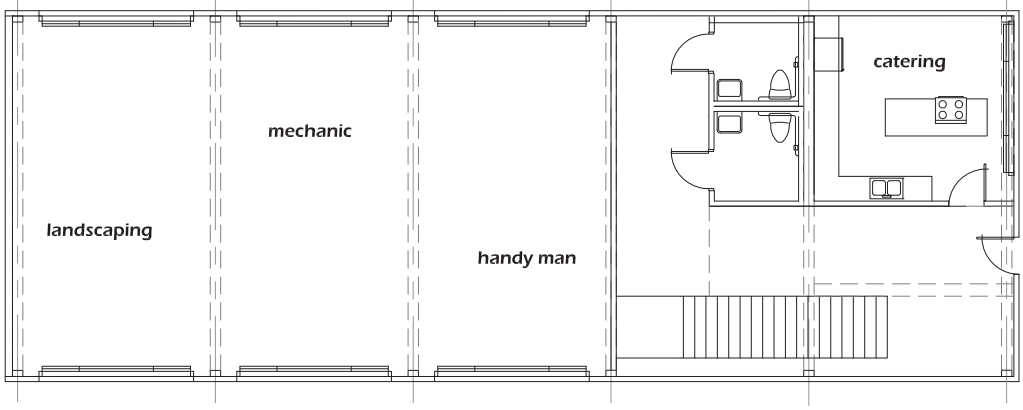
(figure 2)

plan

N 1/16" = 1'-0"



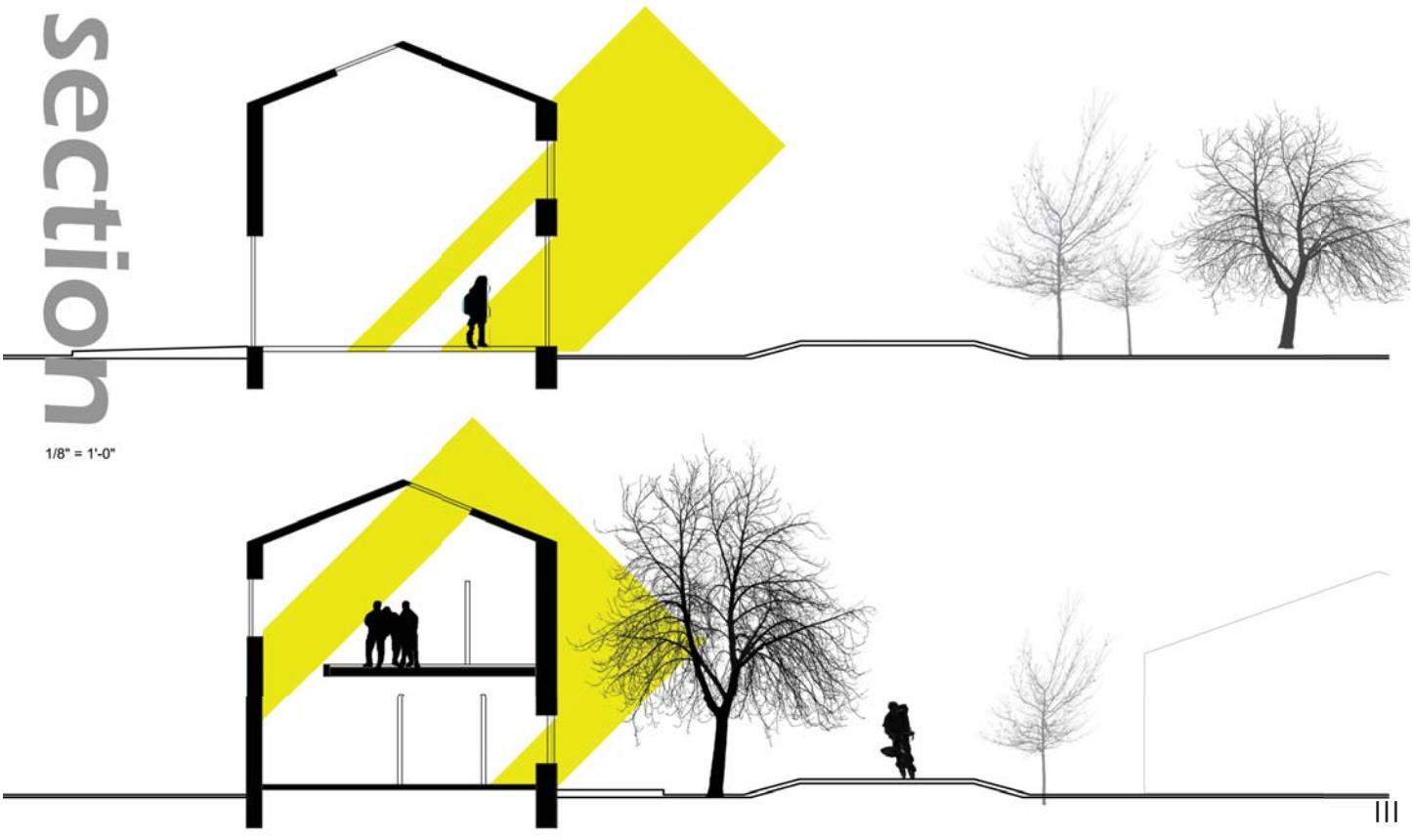
floor 2

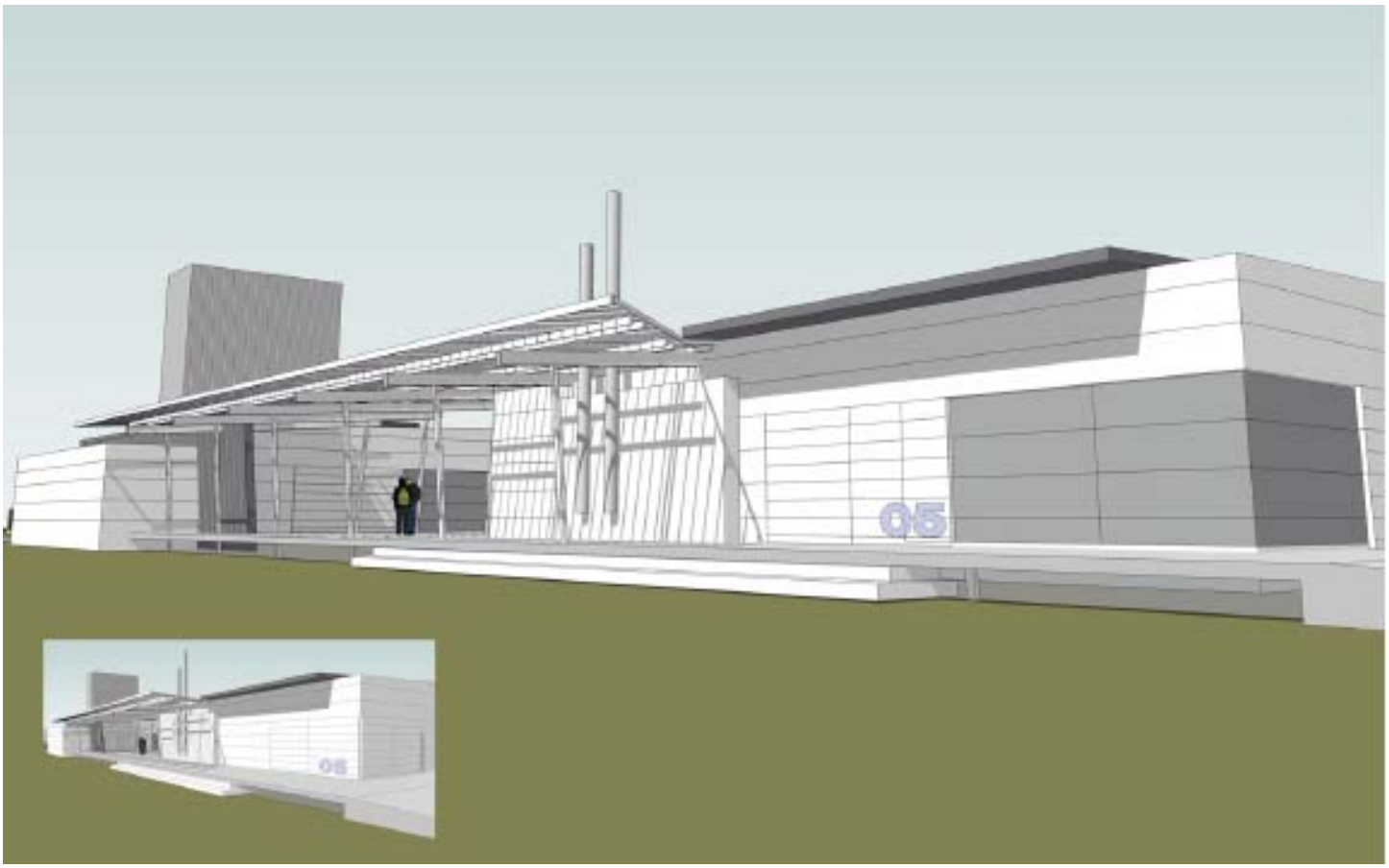


floor 1

section

1/8" = 1'-0"

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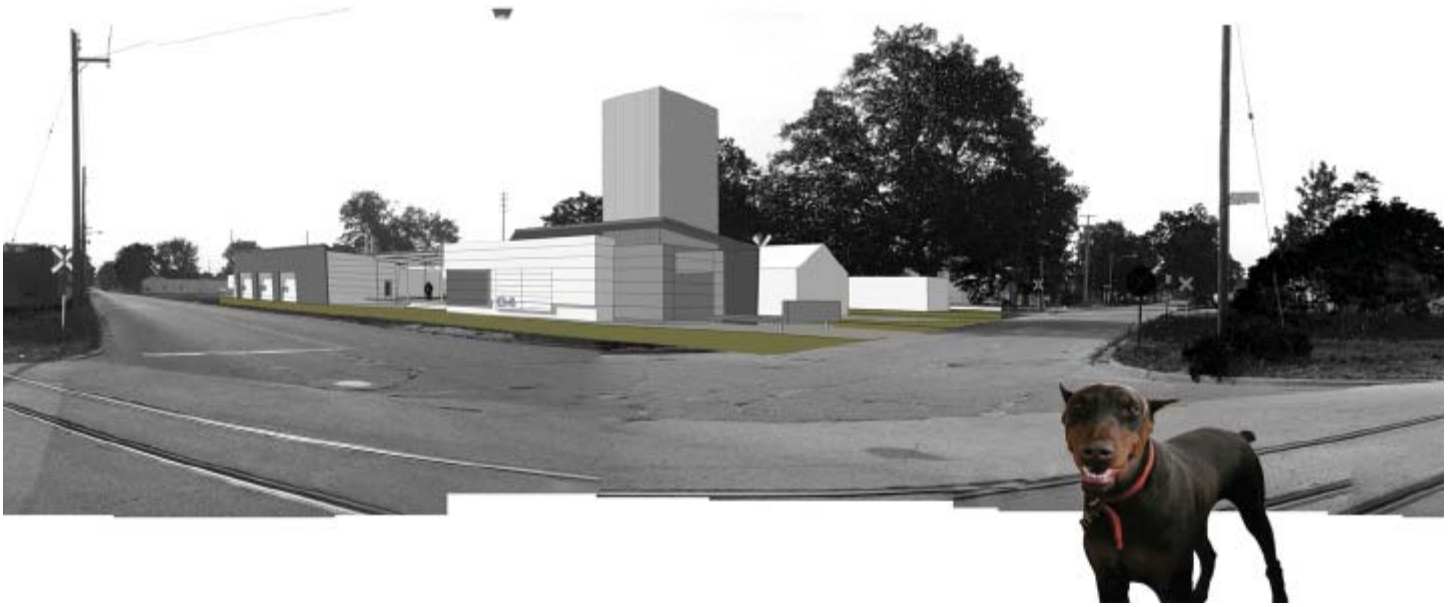
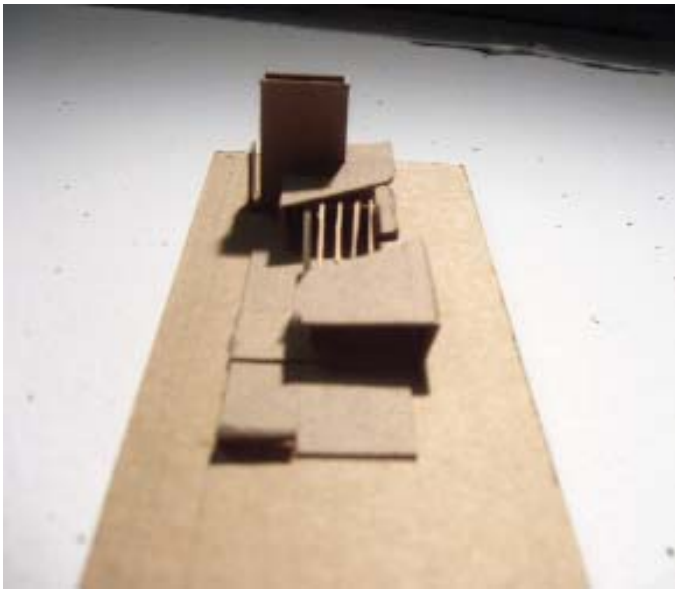
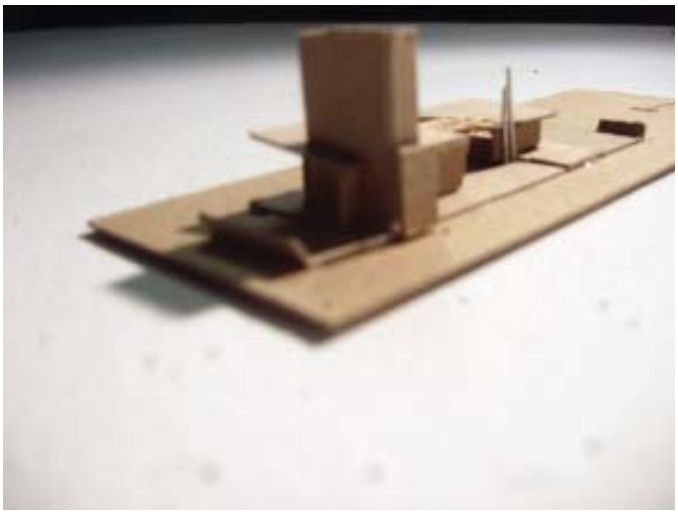


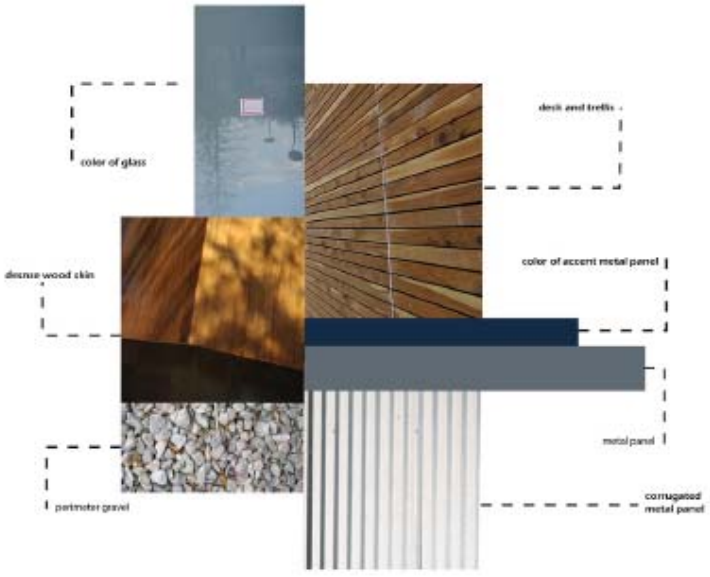
This is a sketch that is focused on programmatic development and contextual relationships. The program in this scenario is split, to separate the clean and the dirty activities that will occur. The dirty side contains space for a landscaper, mechanic, and handyman while the clean side is space for activities such as cooking, teaching, and office activities.

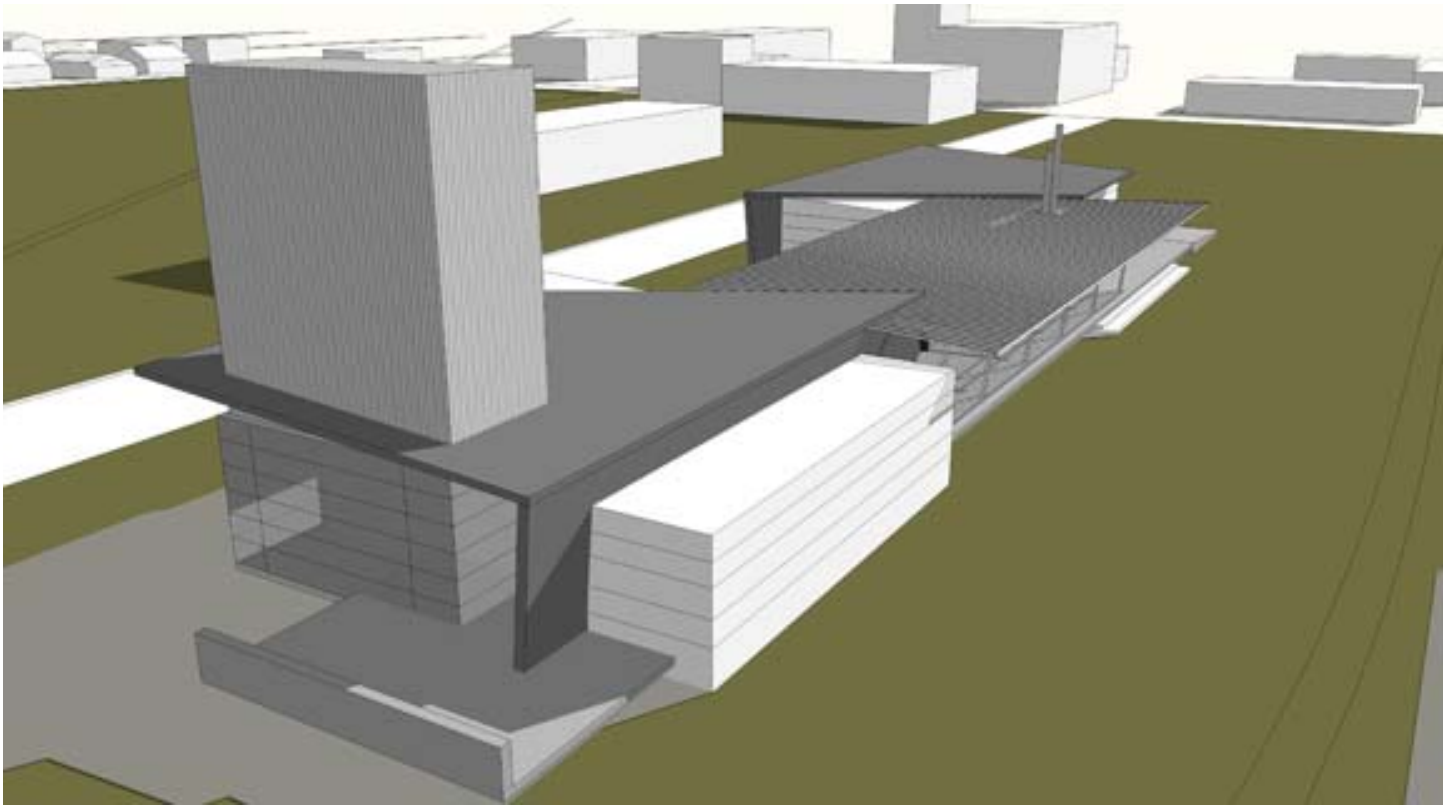
The building is located in a postindustrial area that is mostly flat. Most buildings in the area were used for work such as tool and die manufacturing and stamping shops. Because of the programmatic conditions, most buildings are single story with large footprints. As a reaction to the flat landscape, this sketch explores the opportunity to create a dynamic architecture that signifies its location to neighboring communities. The large tower that is located at the corner of the site is elevated to a height that creates a recognizable presence from various outside viewpoints.

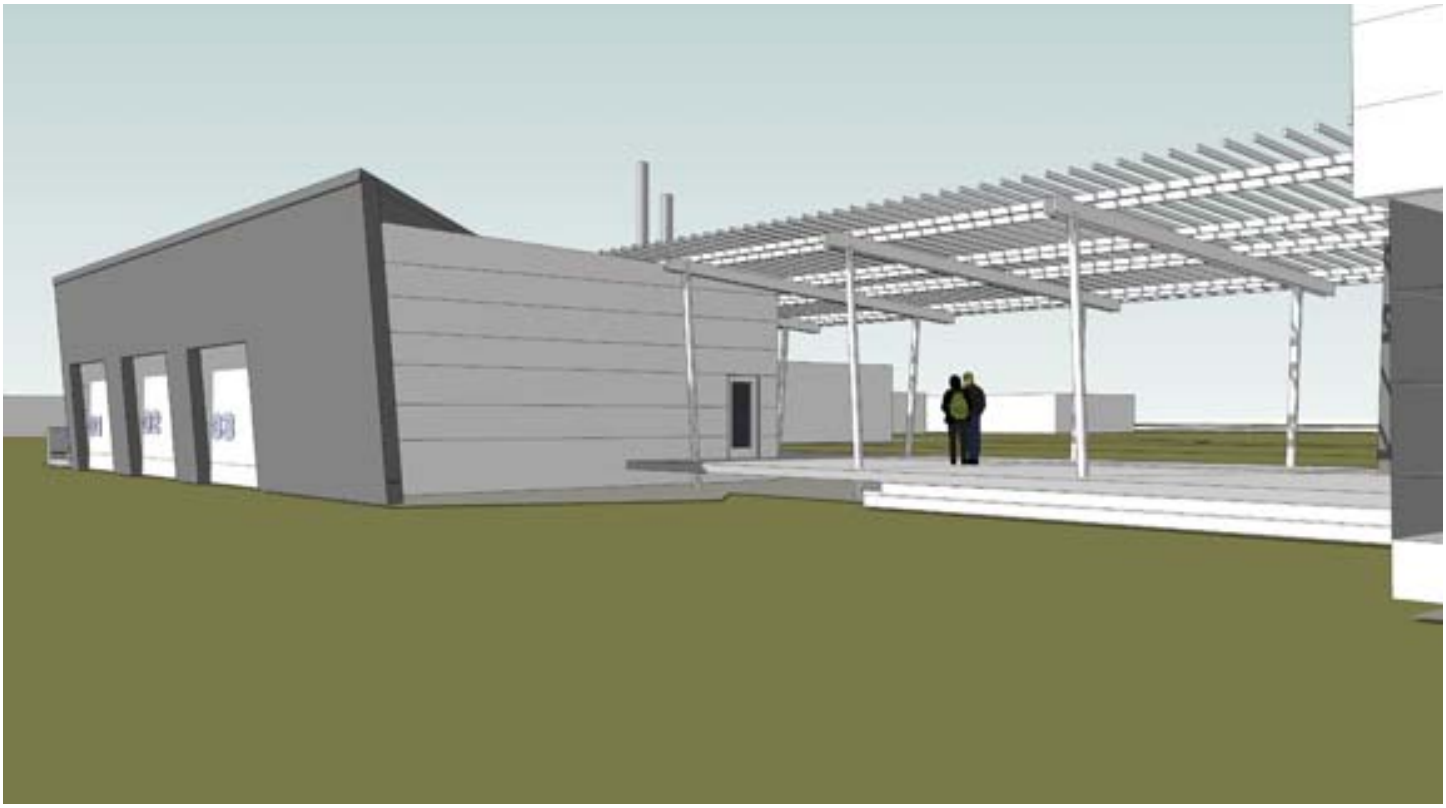
However, the hard and soft bodies approach was not fully investigated. This design simply acknowledges the fact that there is a programmatic condition that needs to be resolved. The shared workshops are designed for permanent activities and do not allow the flexibility that is required for responding to a fluctuating program.



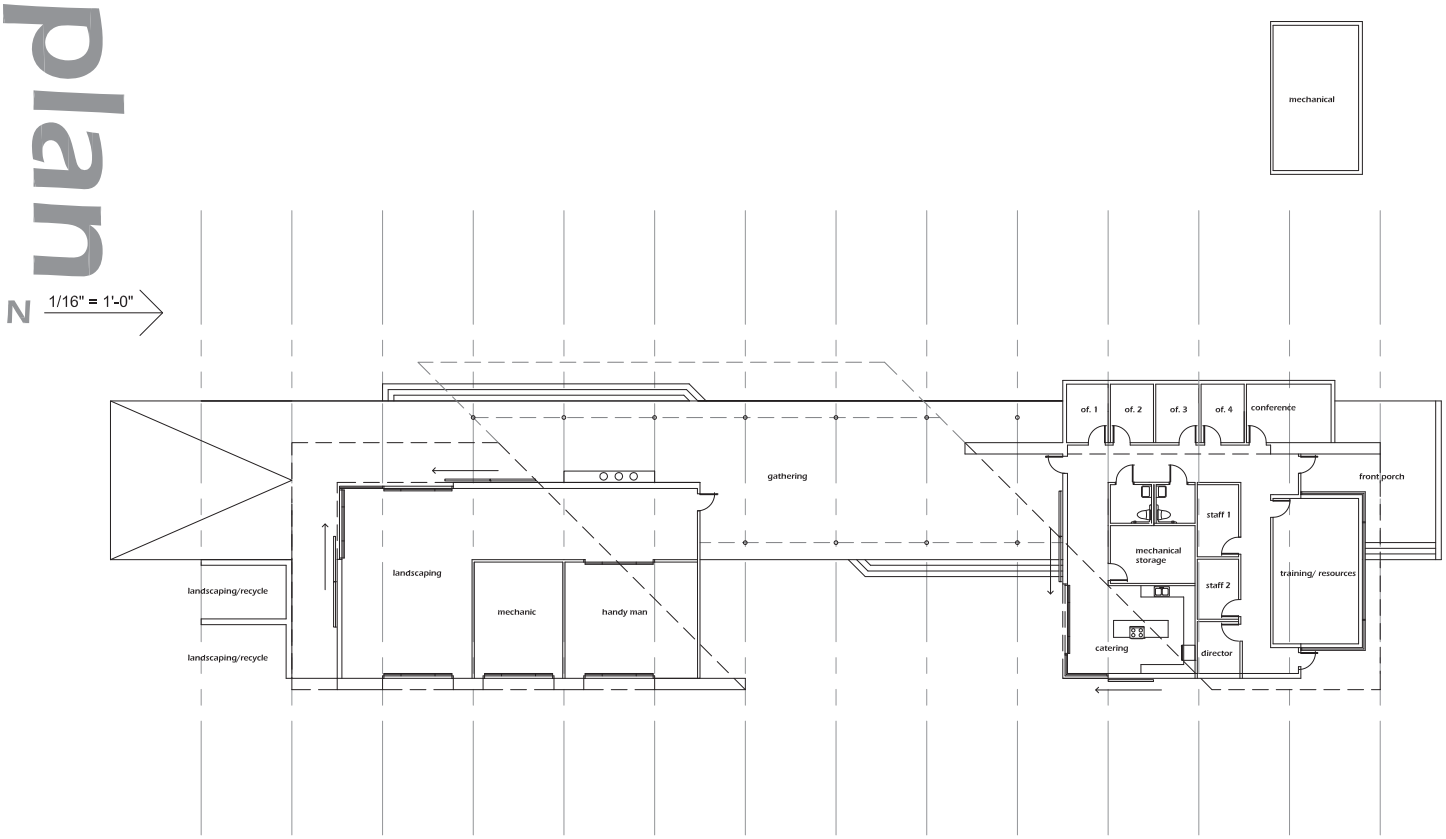




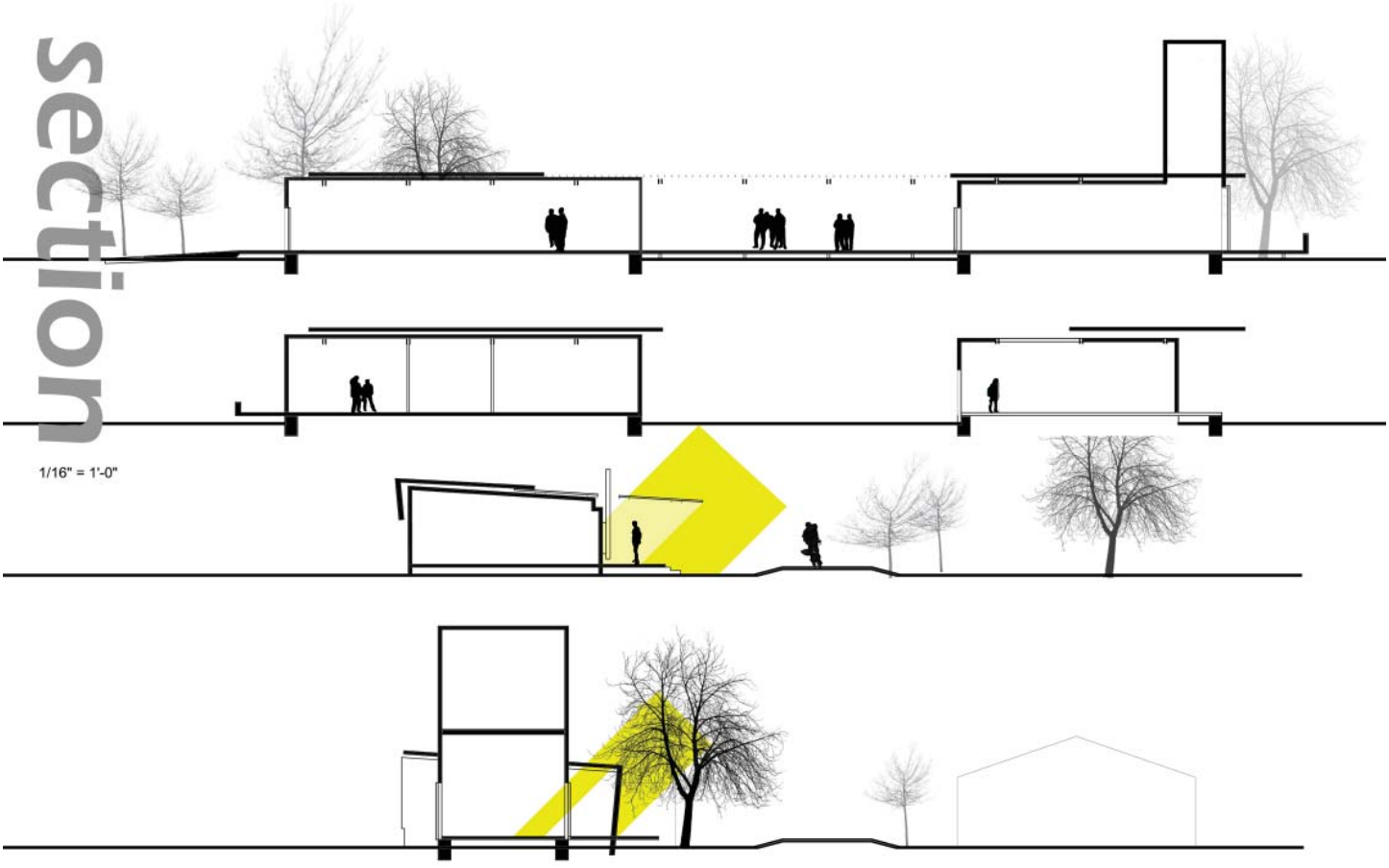




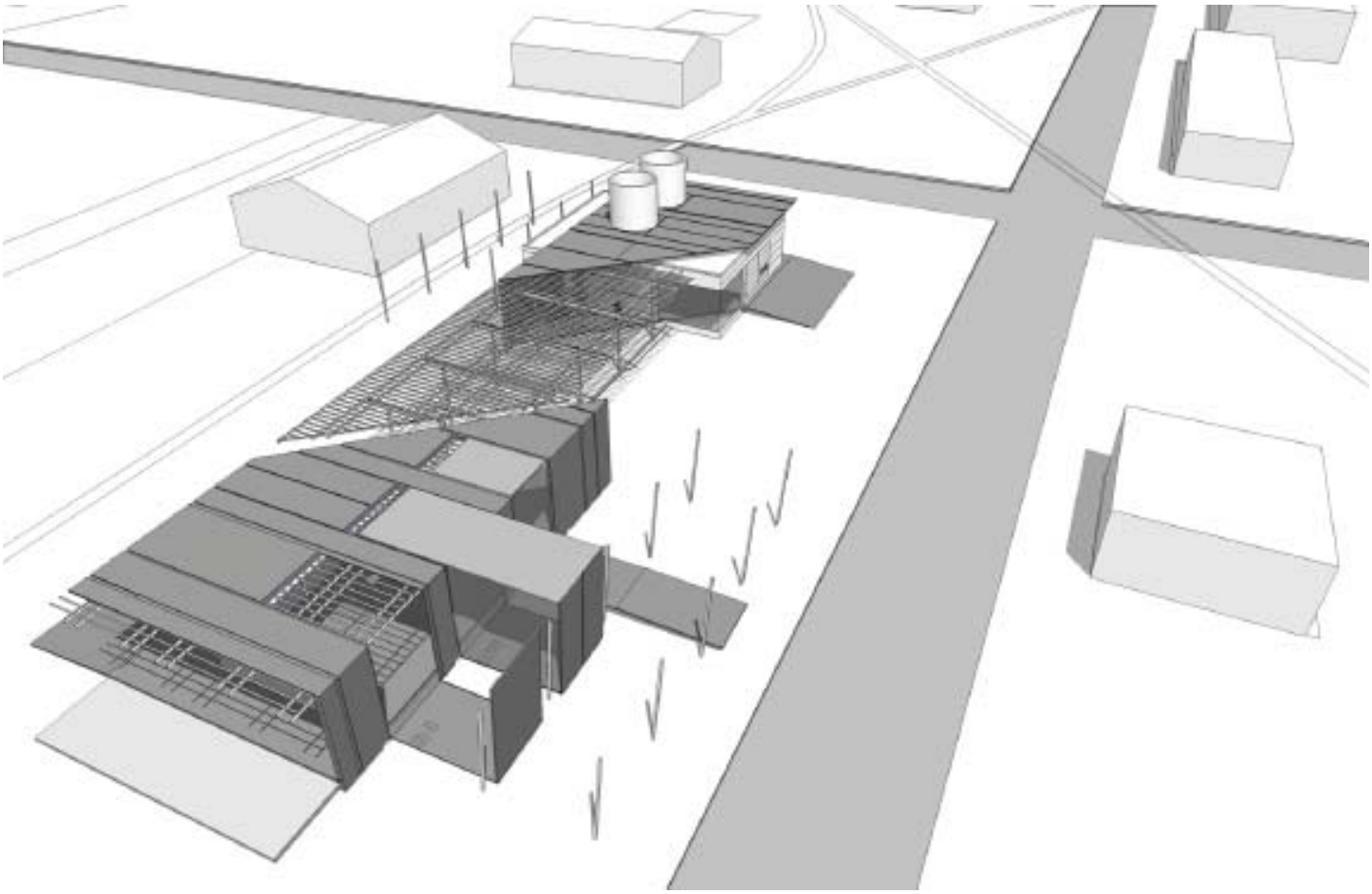
plan



section



DESIGN DEVELOPMENT



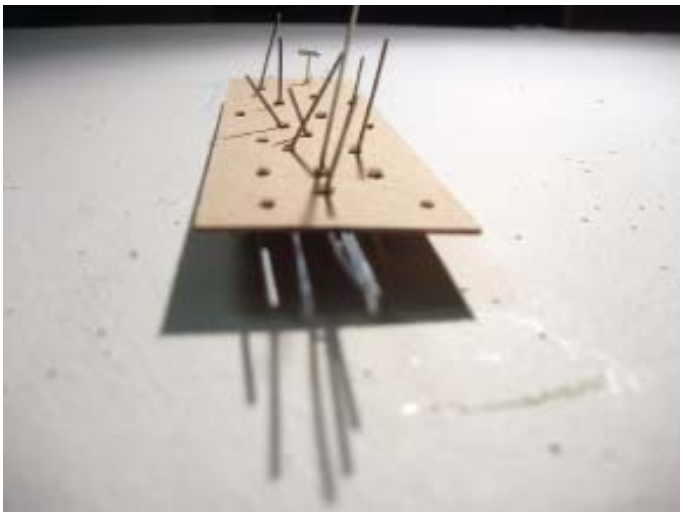
Site 03: Muskegon

Workshop Incubators _ Muskegon Heights

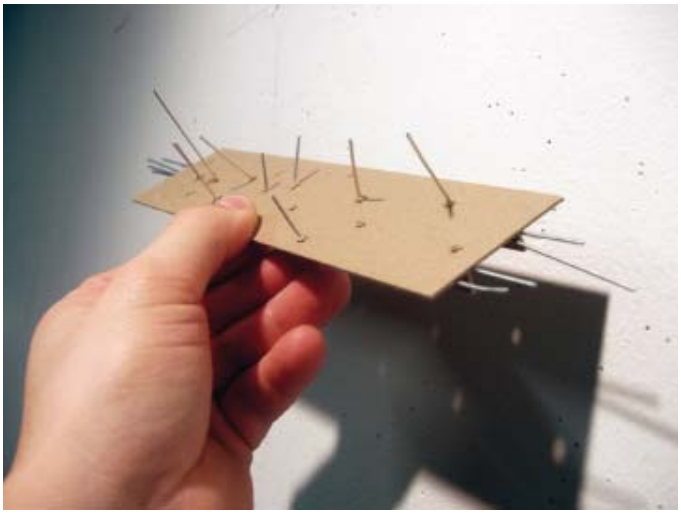
This design development investigates the hard and soft relationship in terms of separation of program, dynamic changing spaces, the use of found objects, and an infrastructure that supports the changing scenario. The formal development for the workshop incubator emerges from the notion of a simple form such as a box. This box is cut in half to open to the neighboring community and as a strategy for the separation of clean and dirty activities that may occur.

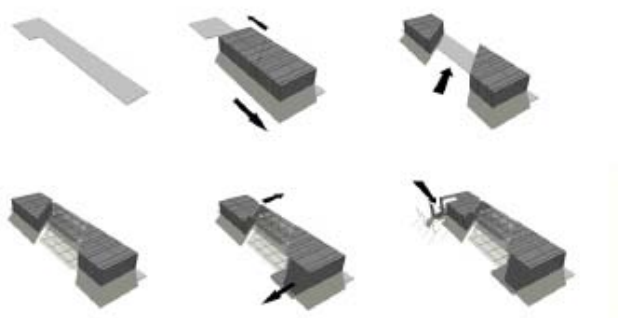
The program is split with the dirty side being the workshops (which contain space and shared resources for entrepreneurs such as a mechanic, landscaper, and handyman). While the clean side will hold hard programs such as the mechanical, restrooms, and space for management activities as well as a commercial kitchen for catering services. The workshop areas are lightweight in appearance and explore the idea of a flexible structure that is responsive to the entrepreneur activity. As the entrepreneurs utilize this space their activity fills the soft spaces and activates them. Over time the spaces will expand and contract based on user necessity.

The workshop incubator rests lightly on the ground to allow a plenum for mechanical supply beneath (figure 2). The sketch model in figure 1 investigates how the entrepreneurs can plug into the infrastructure for required services such as mechanical, plumbing, electrical, as well as compressed air or an exhaust system. Each entrepreneur will require different shared support and attaches to the infrastructure for various needs. For example, the mechanic may need to tap into the compressed air system for operating his tools, while the exhaust system attaches to vehicle tailpipes for removing carbon monoxide. When the mechanic moves out of the incubator space, the connection to the infrastructure is removed thus leaving a scar from activity.



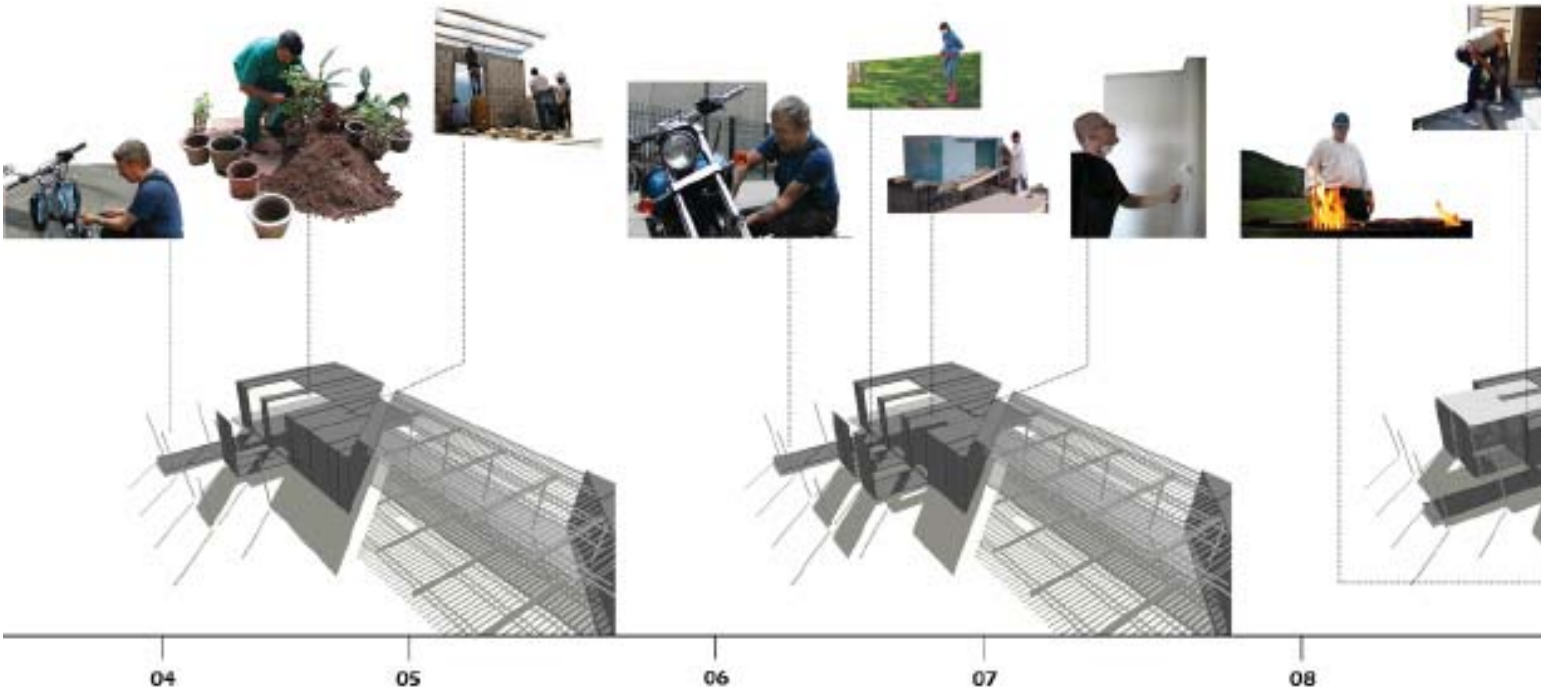
(figure 1)

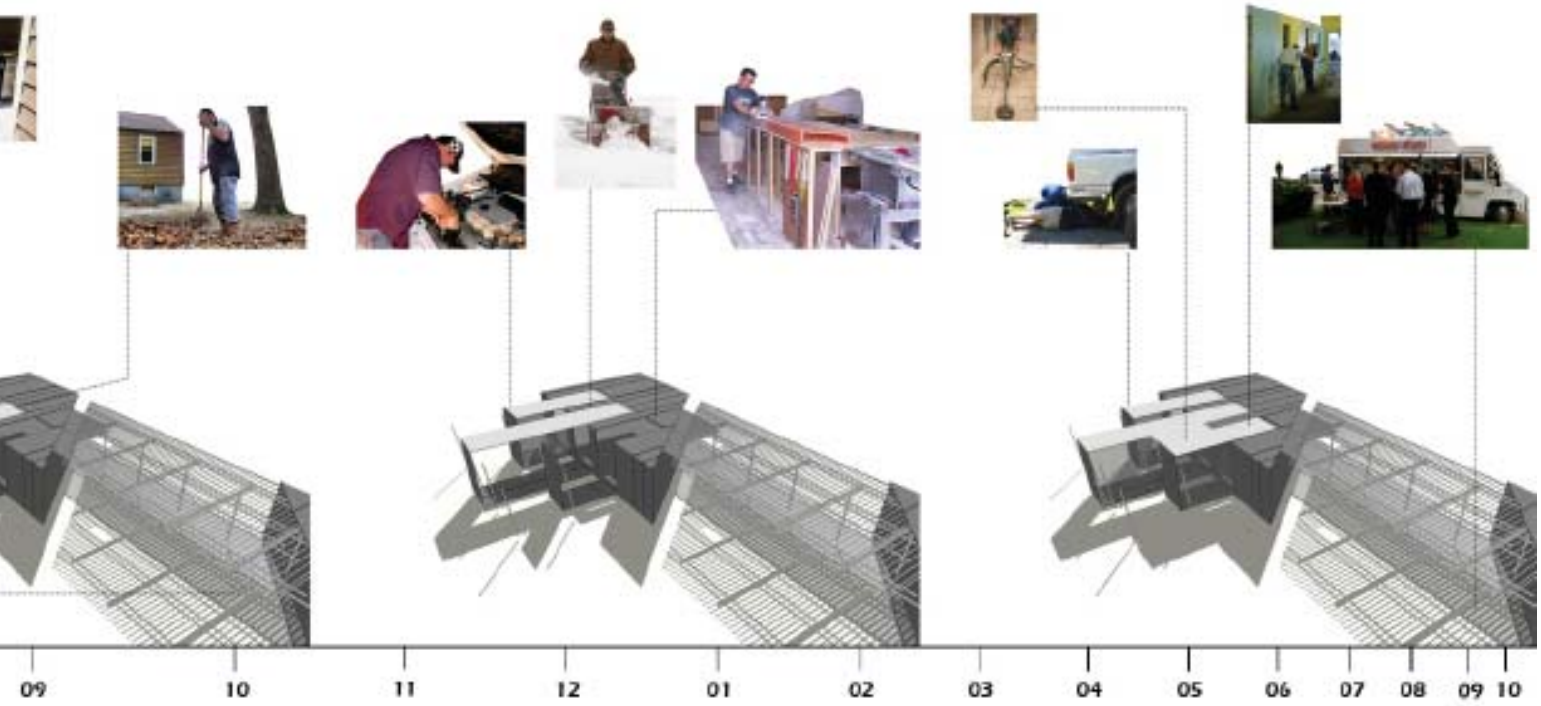




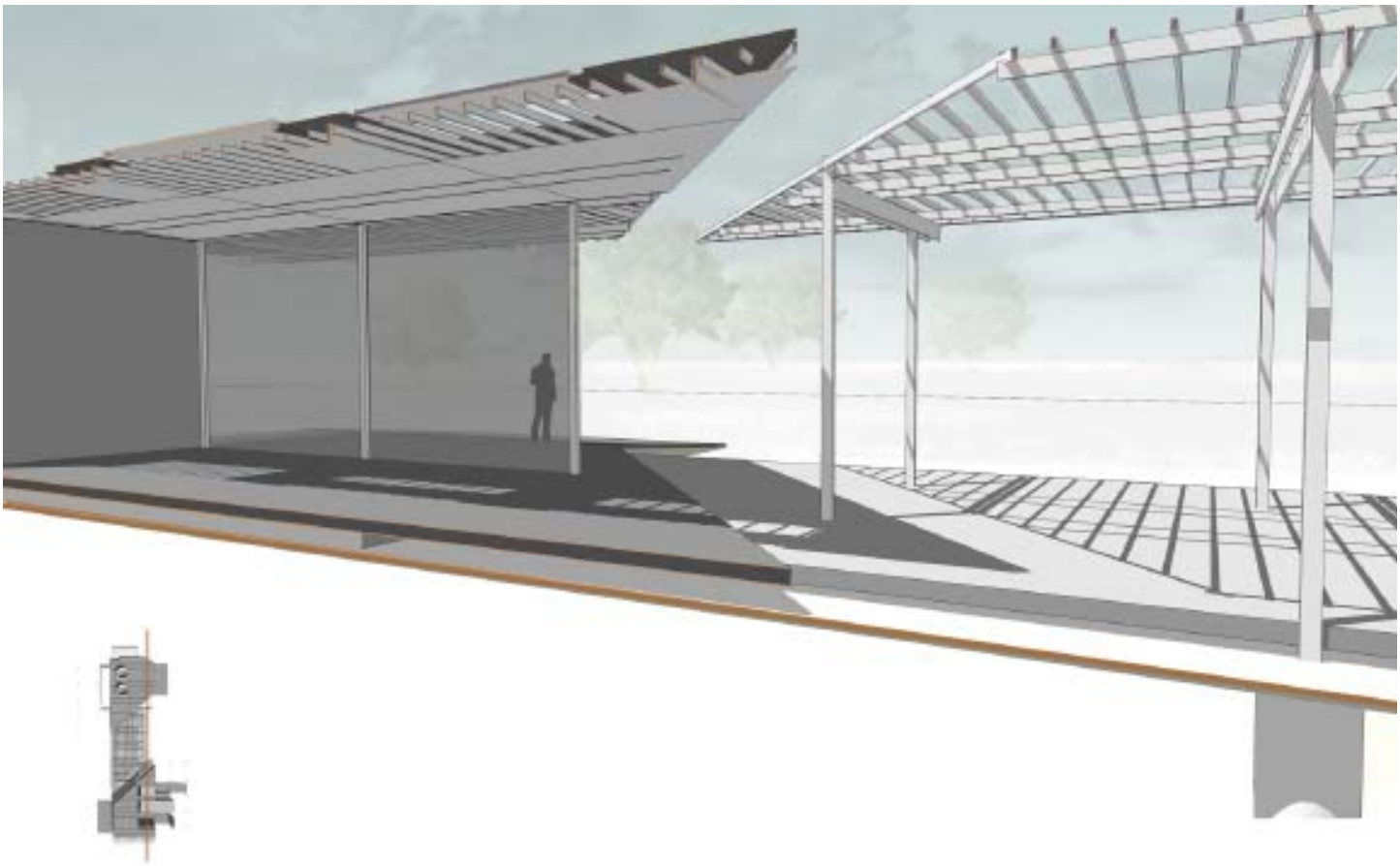
(figure 2)

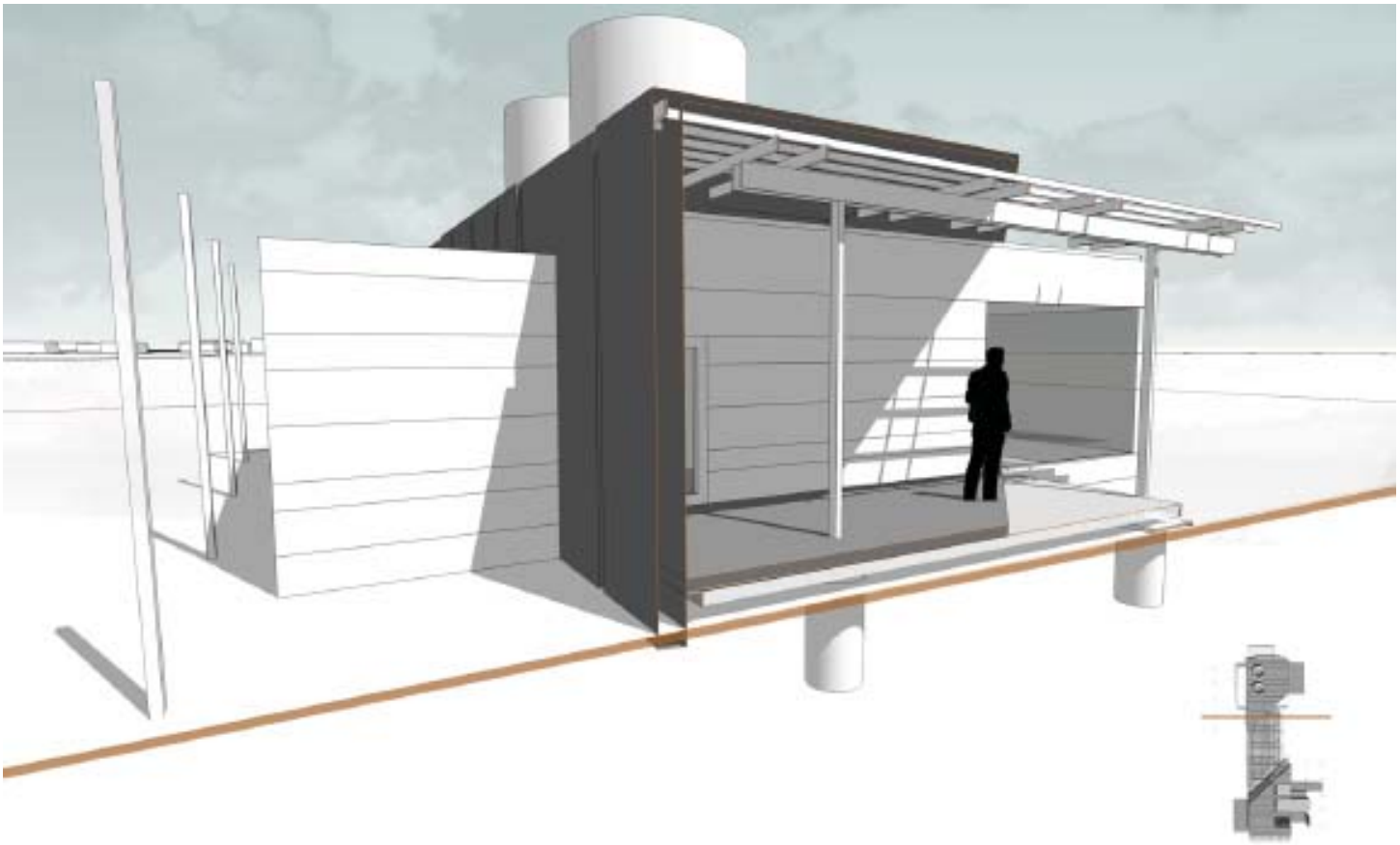
Another exploration involves the use of found objects for constructing the building. The site has two steel tanks that are large in diameter. The idea is to tilt the tanks on end and use them for spaces such as offices or restrooms. (figure 3) This will be further explored as a hard strategy for the workshop incubator.

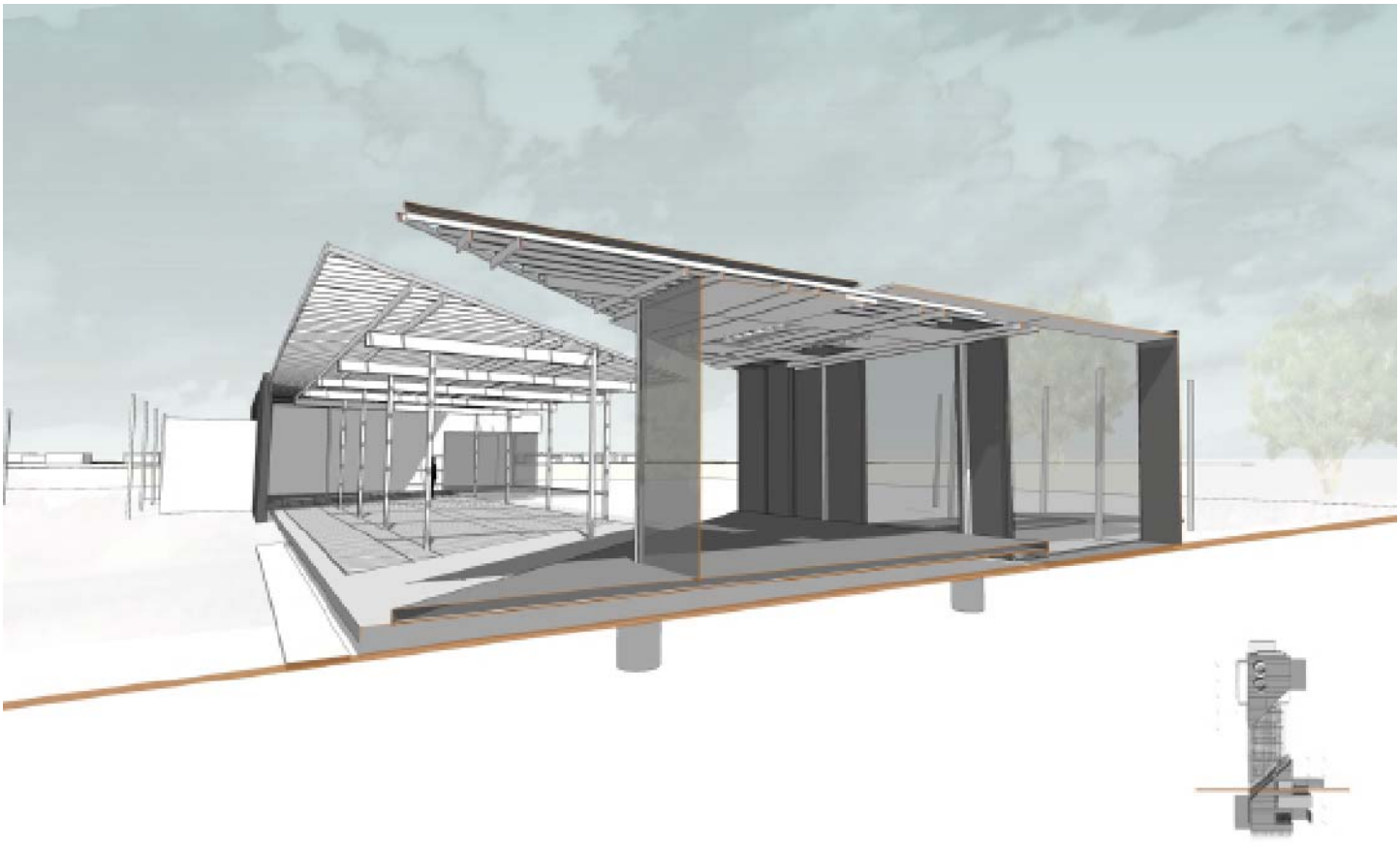


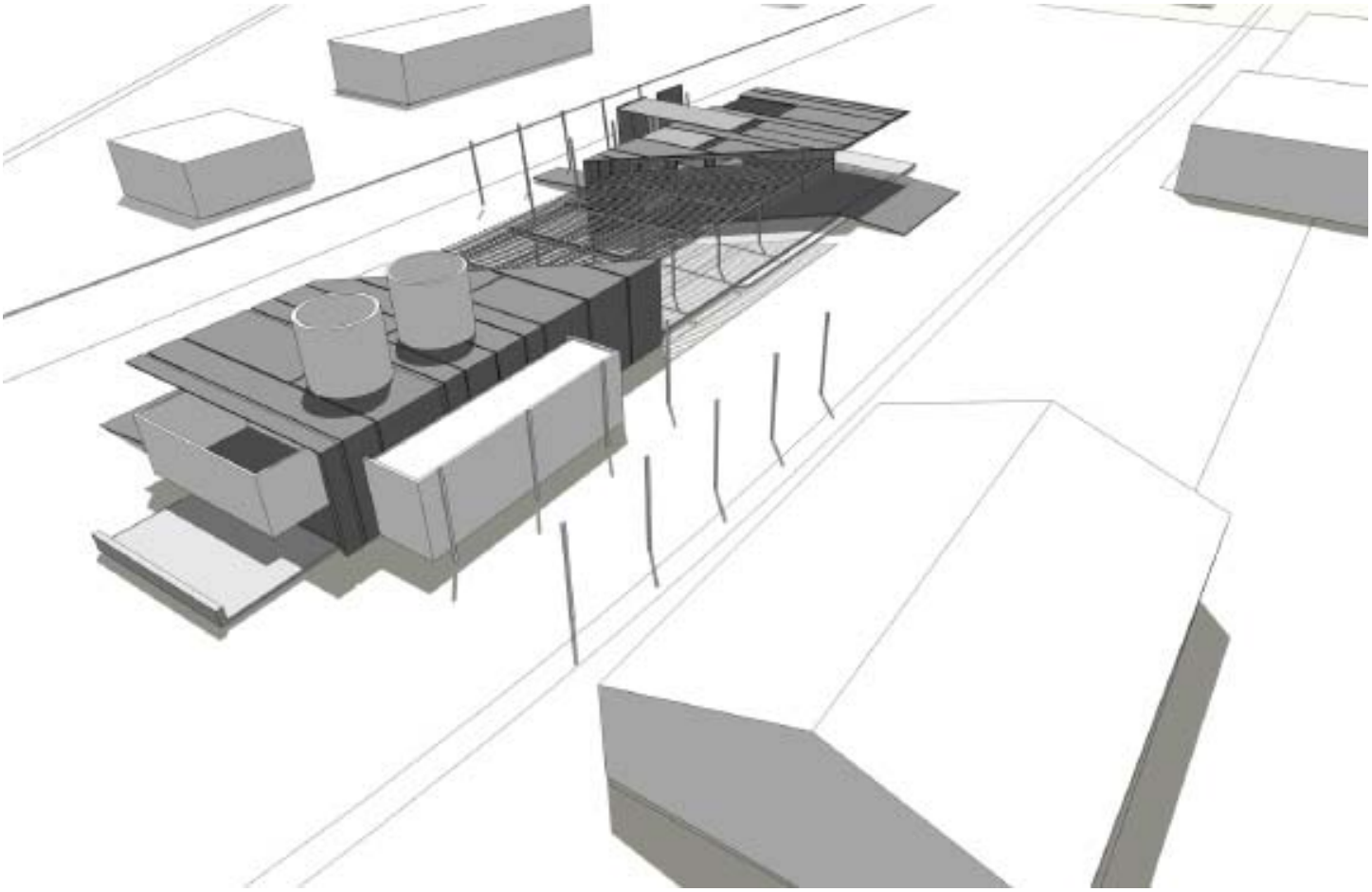


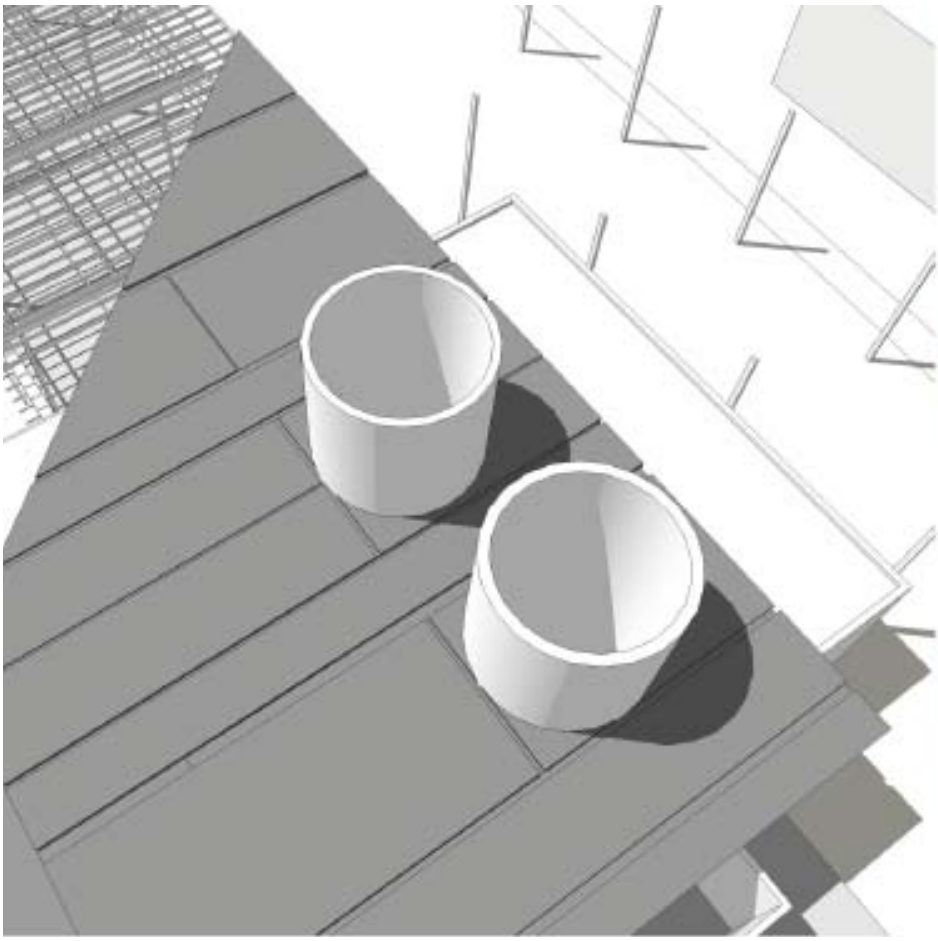
This is a time line scenario that investigates the soft space transformation. These soft spaces are workshop areas that contain shared equipment. Over time, entrepreneurs will come and go based on economic fluctuation. The next step will further investigate this transformation in terms of details and material connections.

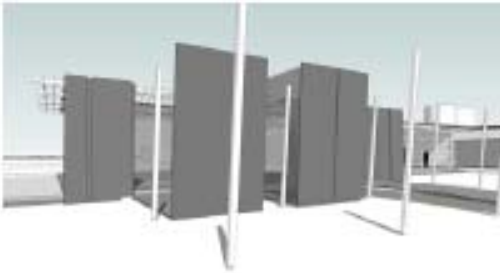












(figure 3)

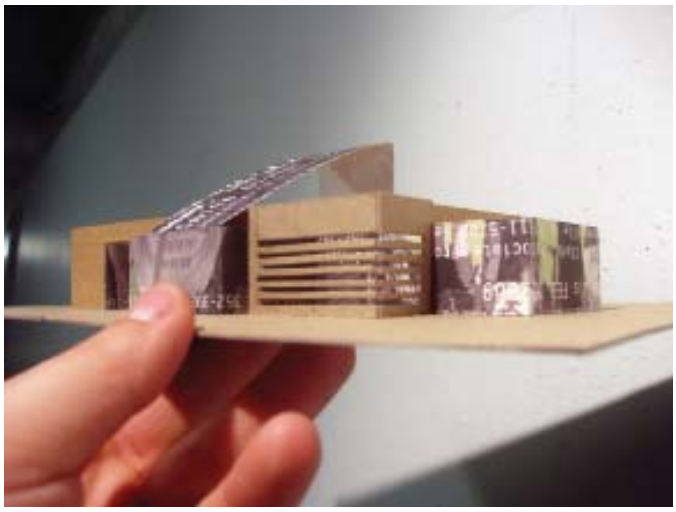
Site 04: Muskegon

Retail Incubators _ Downtown Muskegon

The Retail incubator consists of an exploration of hard and soft architecture and its relationship to an existing building. The hard space is the existing brick facade, piers, bond beams, and other structural members. This is thought of as the heavy space that will remain while the space between offers incentives for attachment or weaving new space. The new space is considered soft space which is woven between the hard spaces (figure 1). The incentive for creating soft space between the hard bodies allowed an opportunity to create a dynamic structure that emerges in a bay between the existing bow trusses.

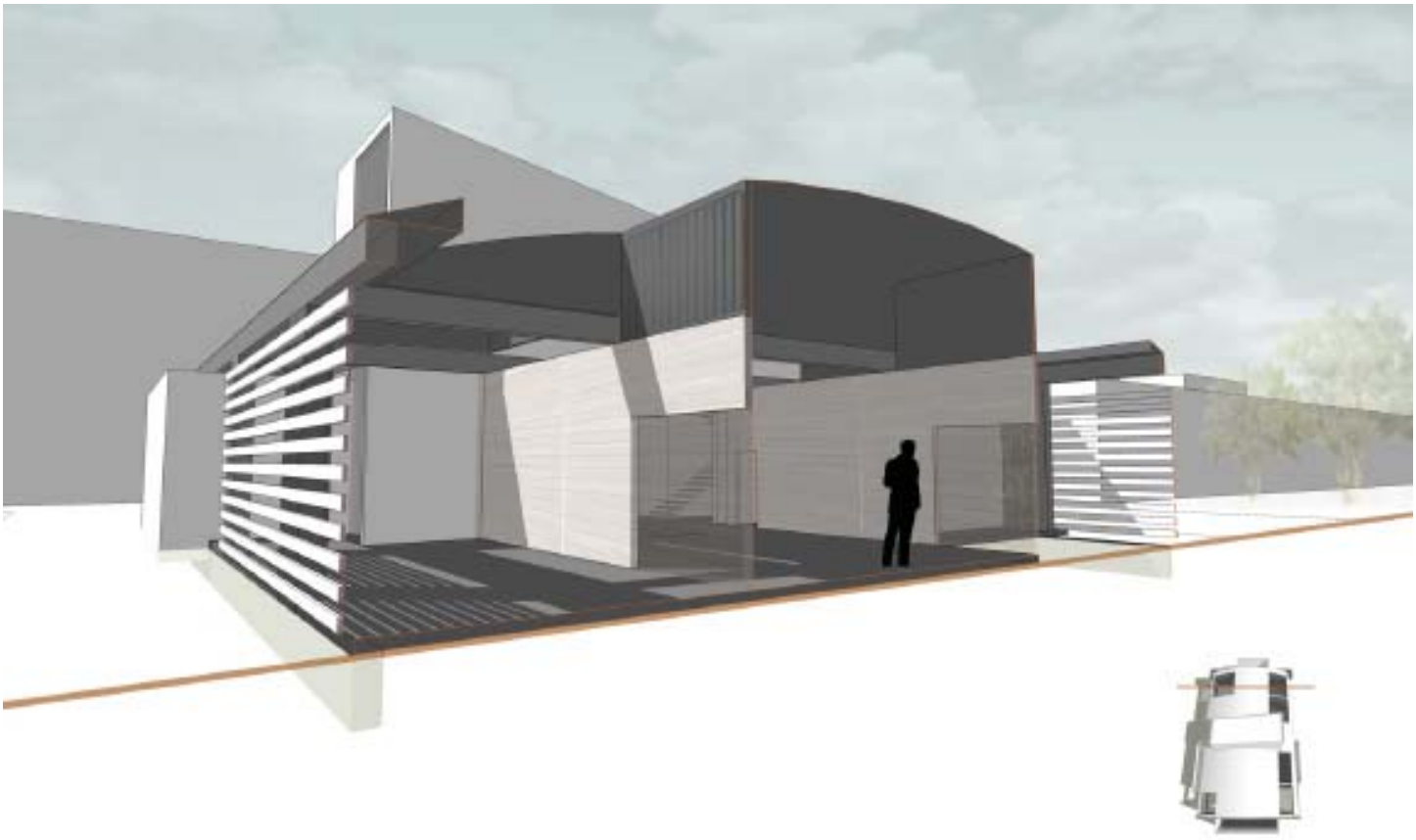
(figure 1)

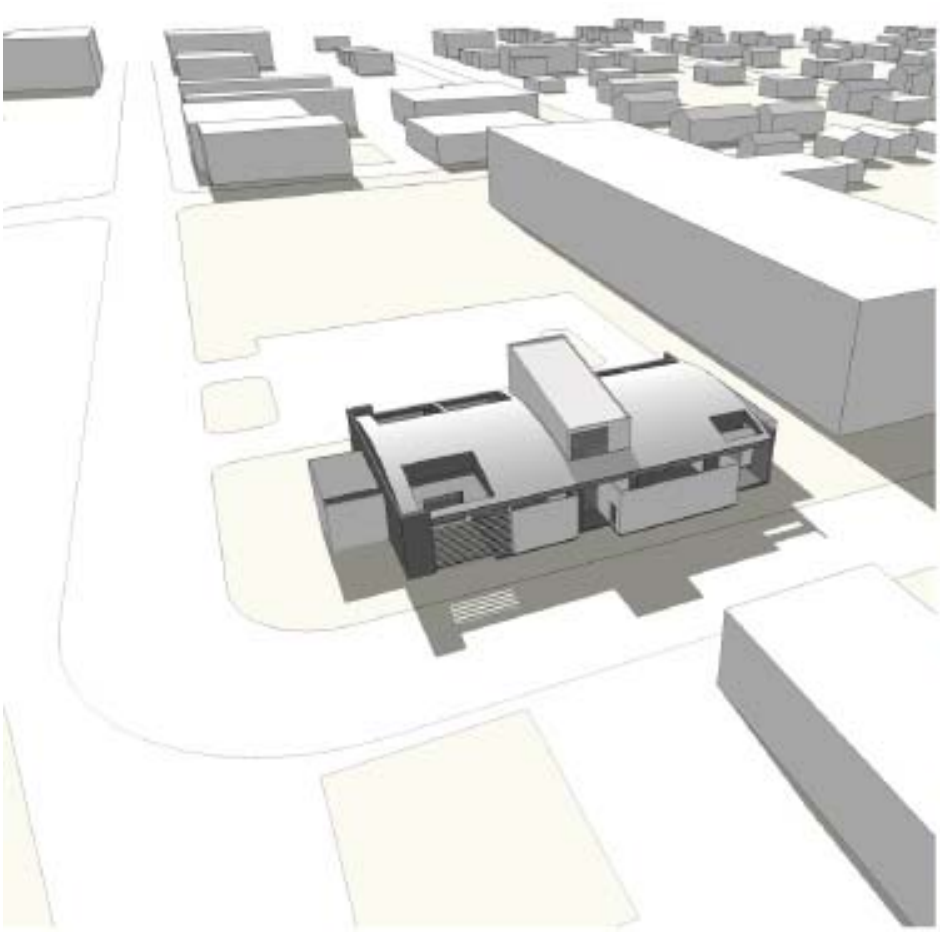
The idea behind the dynamic structure is to create an iconic image that signifies the entrance for the retail incubator. In the evening this icon is meant to be a glowing beacon, inviting customers to the retail shops. This idea will be further explored with the intent to create a branding for the organization.



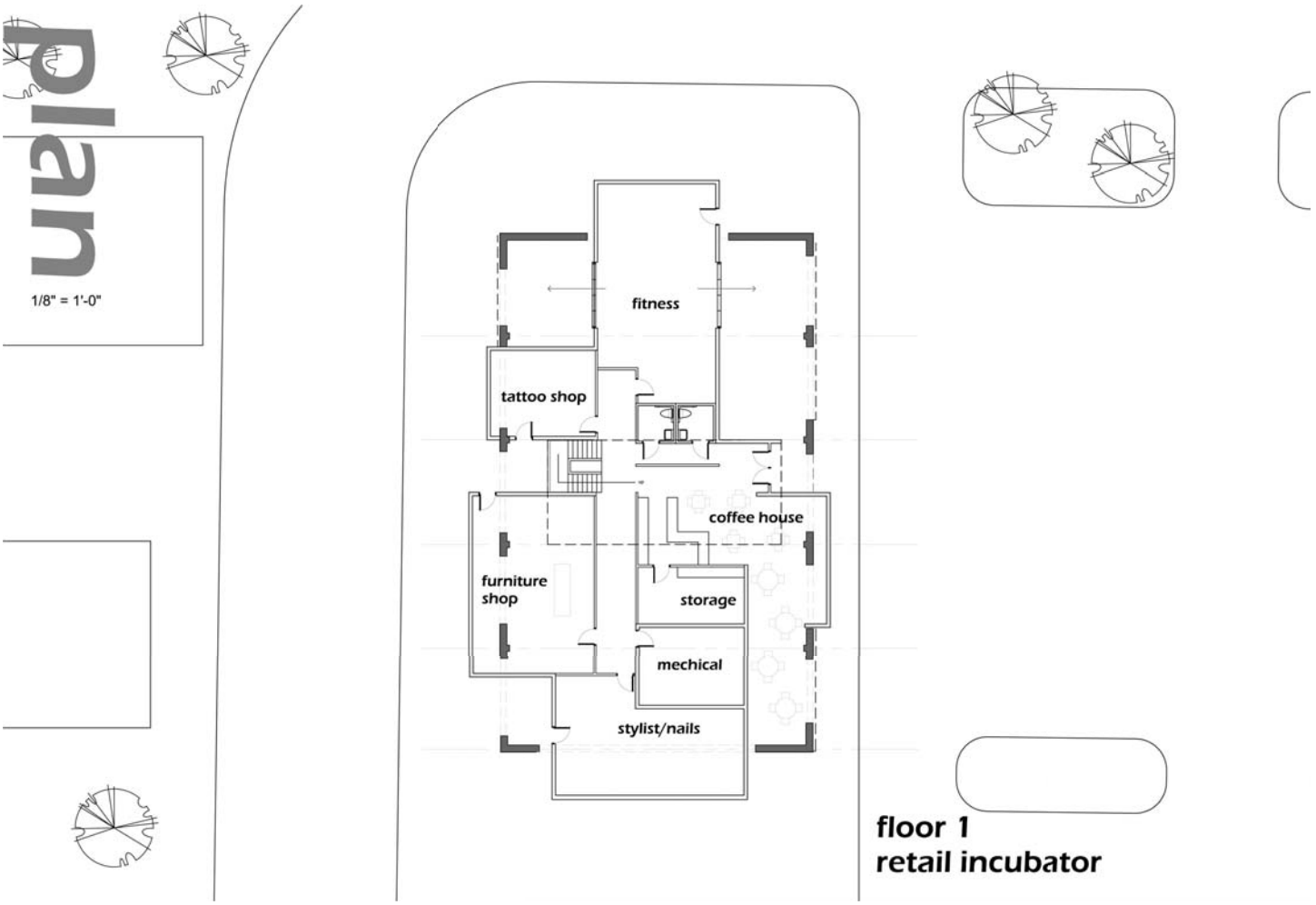
The relationship between hard and soft also creates small internal courtyards that are open air. One of these open spaces allows the extension of a proposed fitness area. There are overhead doors that open based on occupant desire. This gesture blurs the defined interior and exterior relationship.

The hard and soft space approach further investigates material relationships. The new woven space is constructed from lightweight materials such as polycarbonate or soft materials such as wood while the hard space is heavy steel and masonry materials. How do we connect the hard space with soft spaces? The details of the material connection will be explored in terms of this relationship.





The downtown “retail incubator” is designed for entrepreneurs to rent space for services that require a high level of exposure such as tattooing, a salon, and space to sell manufactured goods such as custom furniture, a fitness area ,and a cafe. The plan is meant to create a synergy of entrepreneurs that utilized each others retail traffic for the advancement of the grassroots organization.



FINAL DESIGN


3
1
2


key
site
lake shore trail
renaissance zone
high unemployment

Workshop Incubator

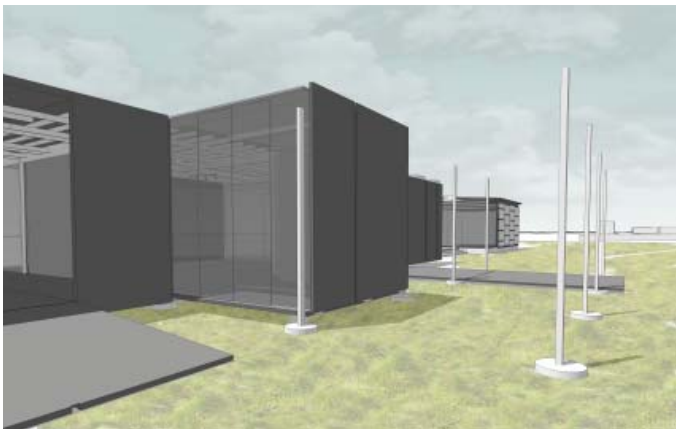
Final Design

This site is located on a wastescape south of the retail incubator adjacent to the lake shore trail development and within another renaissance zone. It is located within walking distance to a residential area that is experiencing an increased unemployment rate.

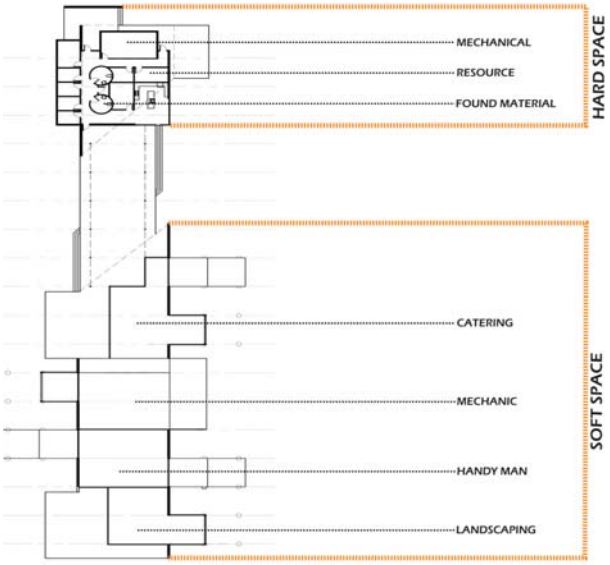
The idea is to locate this facility in an area that is experiencing economic decline and serve the role of reprogramming the blighted landscape. The neighboring lake shore trail runs parallel with the site. (figure 1) In order to utilize the trail advantages, the communal gathering space is designed to open up to the neighboring trail to allow for engagement with the recreational users as well as facilitate the connection to the downtown retail incubator. The formal strategy is also meant to open the facility to a neighborhood that is experiencing high unemployment and serve as a conduit to the alternative economy that is emerging.

This incubator is a reaction to economic activity and offers entrepreneurs shared resources and spaces. The space expands and contracts out of necessity for entrepreneurial activity. (figure 2) As entrepreneurs move in and move out the architecture is designed to accommodate this activity. In this final design a scenario was developed in order to design the spaces. This scenario includes a handyman, a caterer, landscaper, and a mechanic. (figure 6) As the group of entrepreneurs expands the building will extend to allow the expansion of space.

(figure 1)



(figure 2)

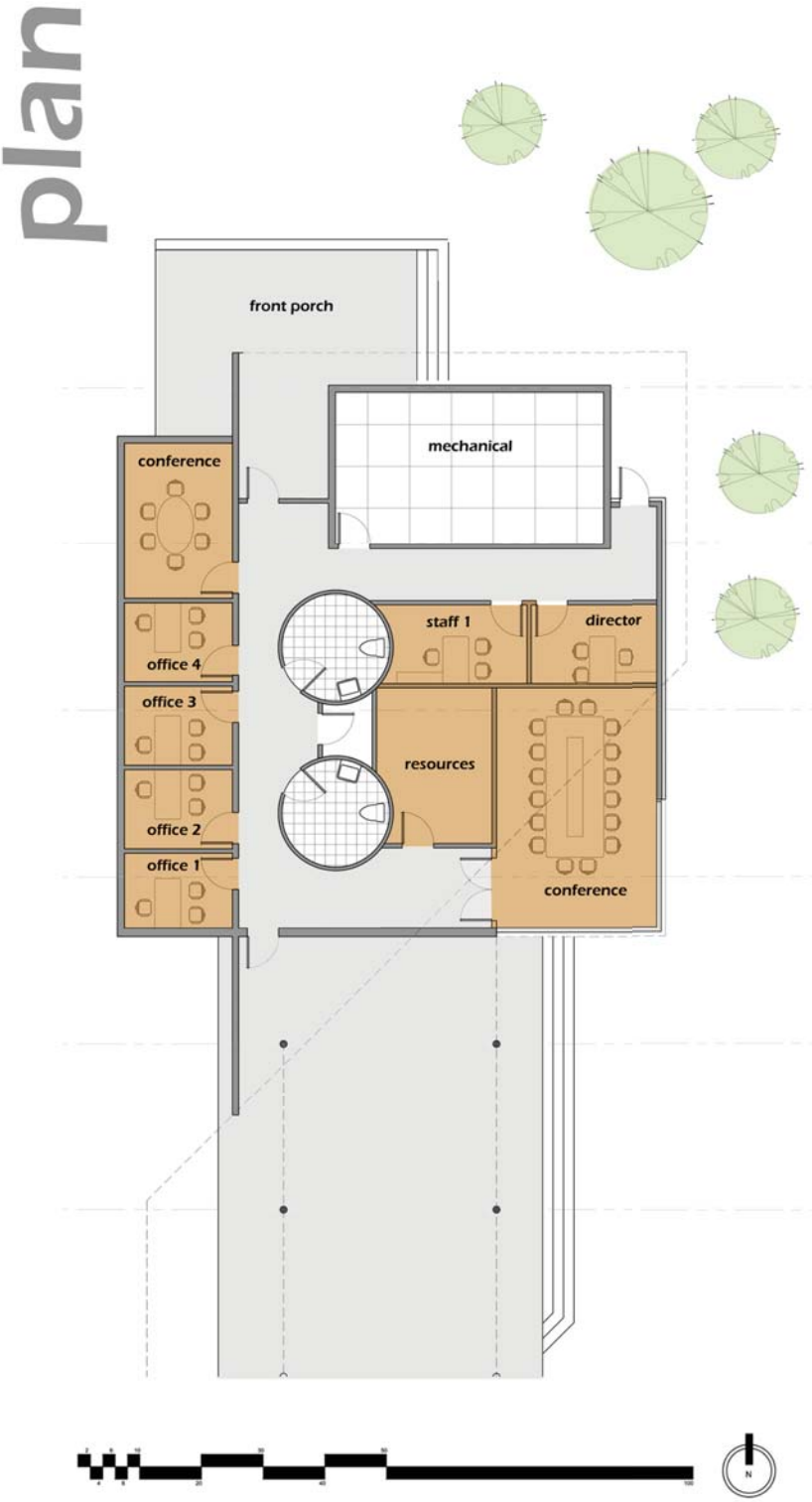


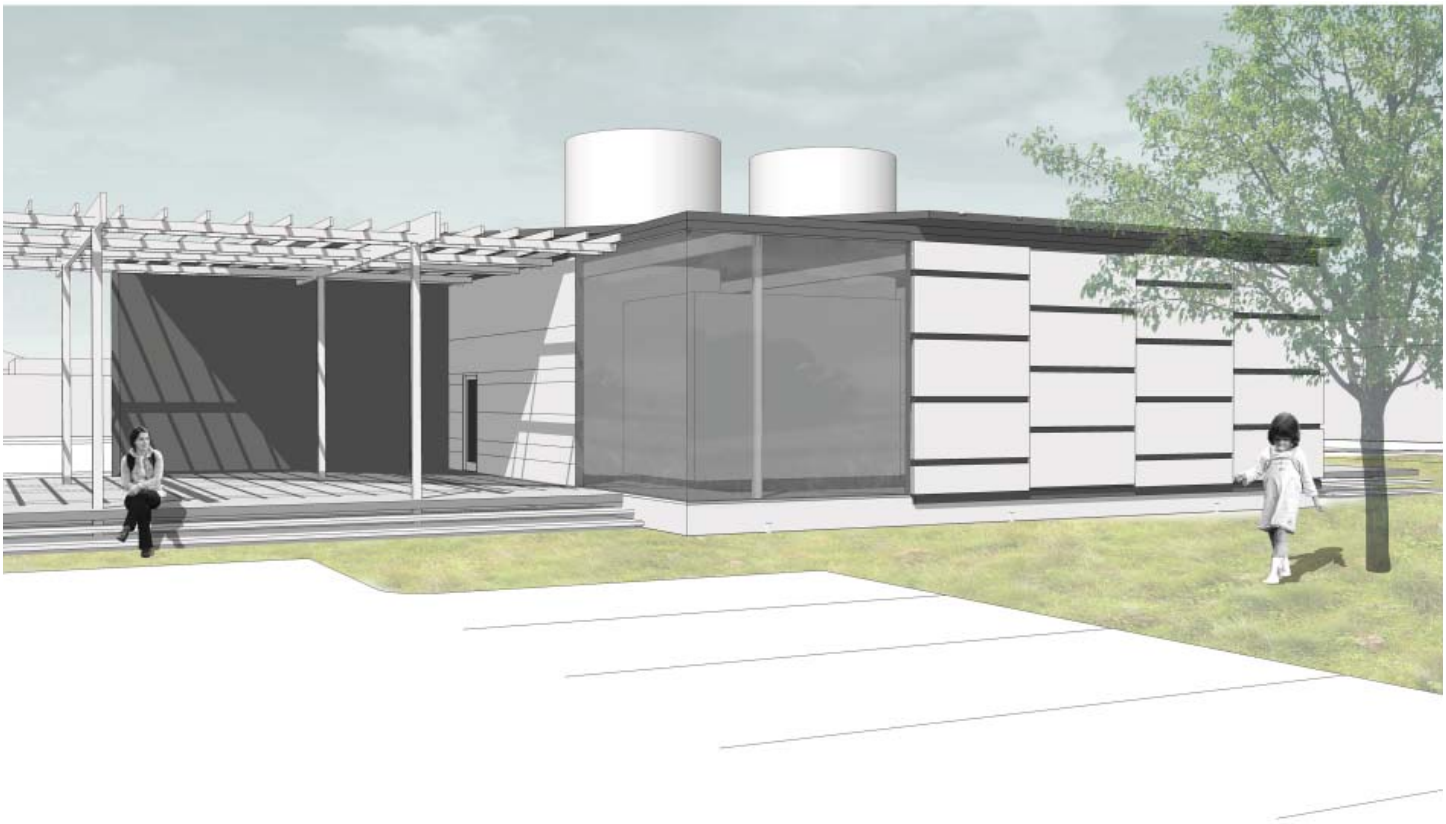
(figure 3)

The Hard + Soft strategy includes the permanent and ephemeral parts of the building. This strategy includes the use of a heavy permanent part of the building that provides the necessary infrastructure for the soft spaces such as mechanical, plumbing and electrical. The ephemeral strategy allows the expansion and contraction of workshop space necessary for the immediate activity of the entrepreneurs.

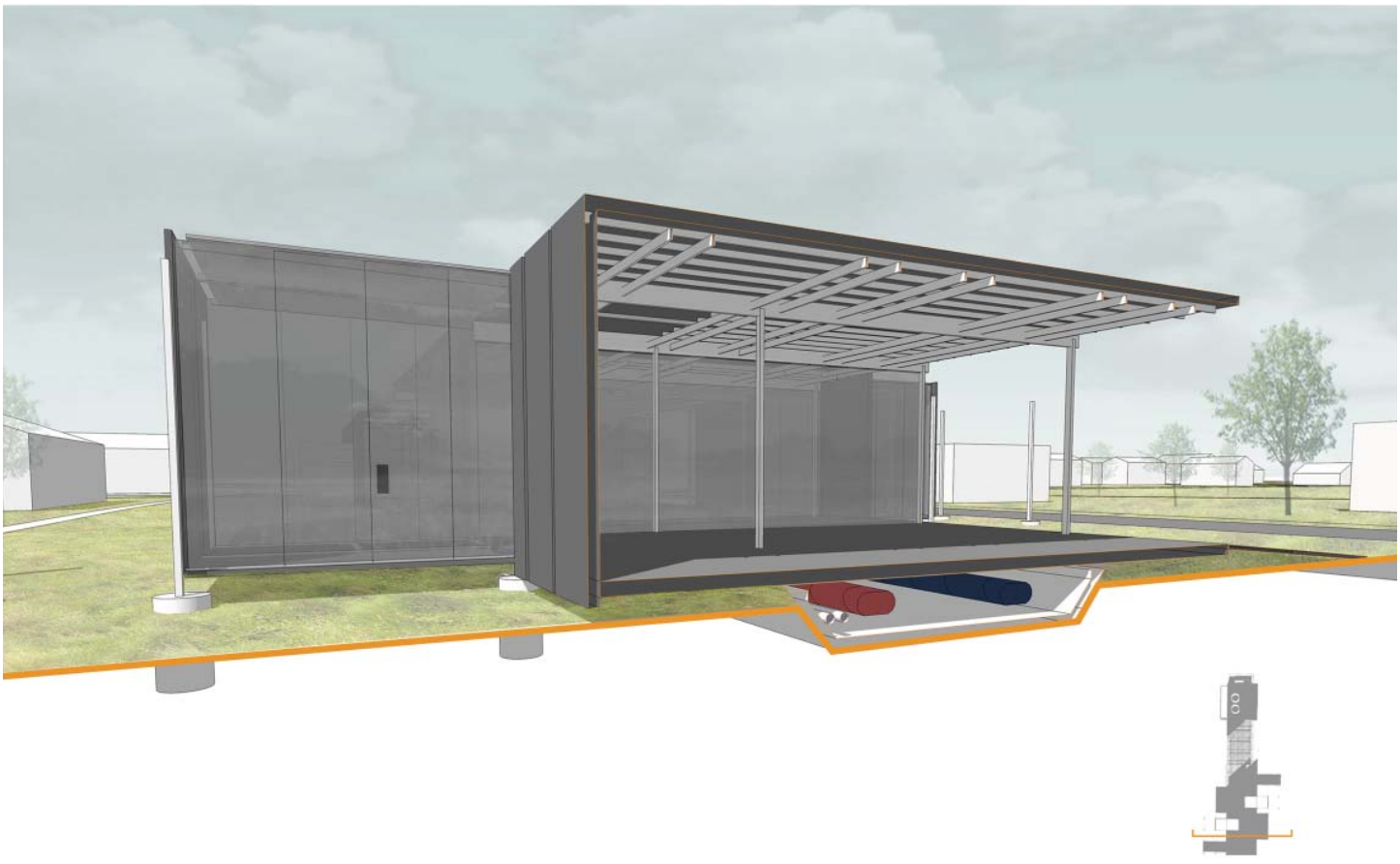
The workshop incubator contains two parts, First there are support programs such business education, management, technical, and financial support as well as global competitive networking strategies. This facility includes a gathering area for entrepreneurs to come together and share ideas, an administrative area, and training space.

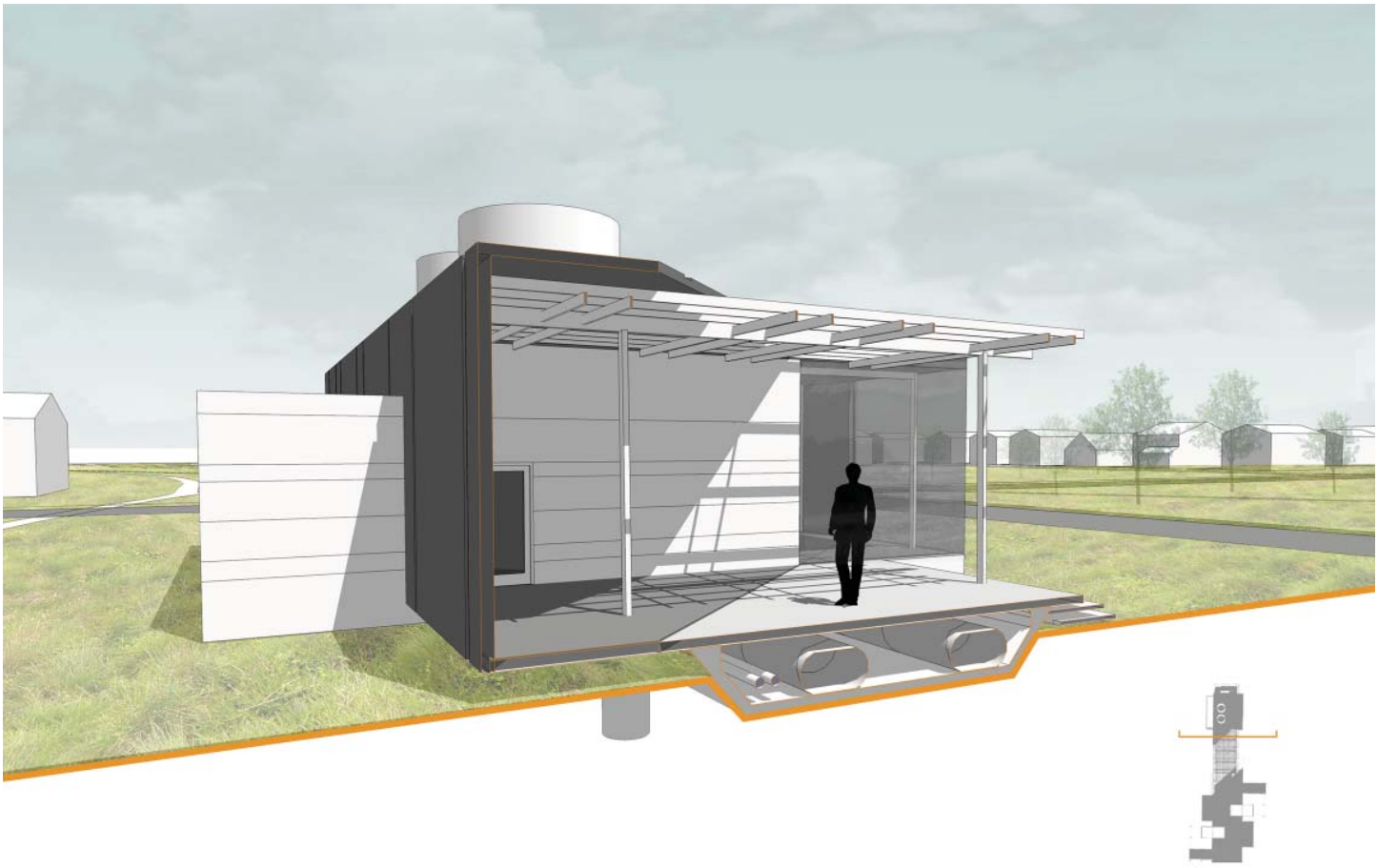
The Second part consists of areas for light industrial production. This would include a commercial kitchen, and work shops that are flexible to accommodate various tools or machinery that are necessary for the activities such as manufacture of goods, motor vehicle repairs as well as other entrepreneurial activity. This would require more space but less visibility then provided in the retail incubator.
(figure 3)





(figure 4)

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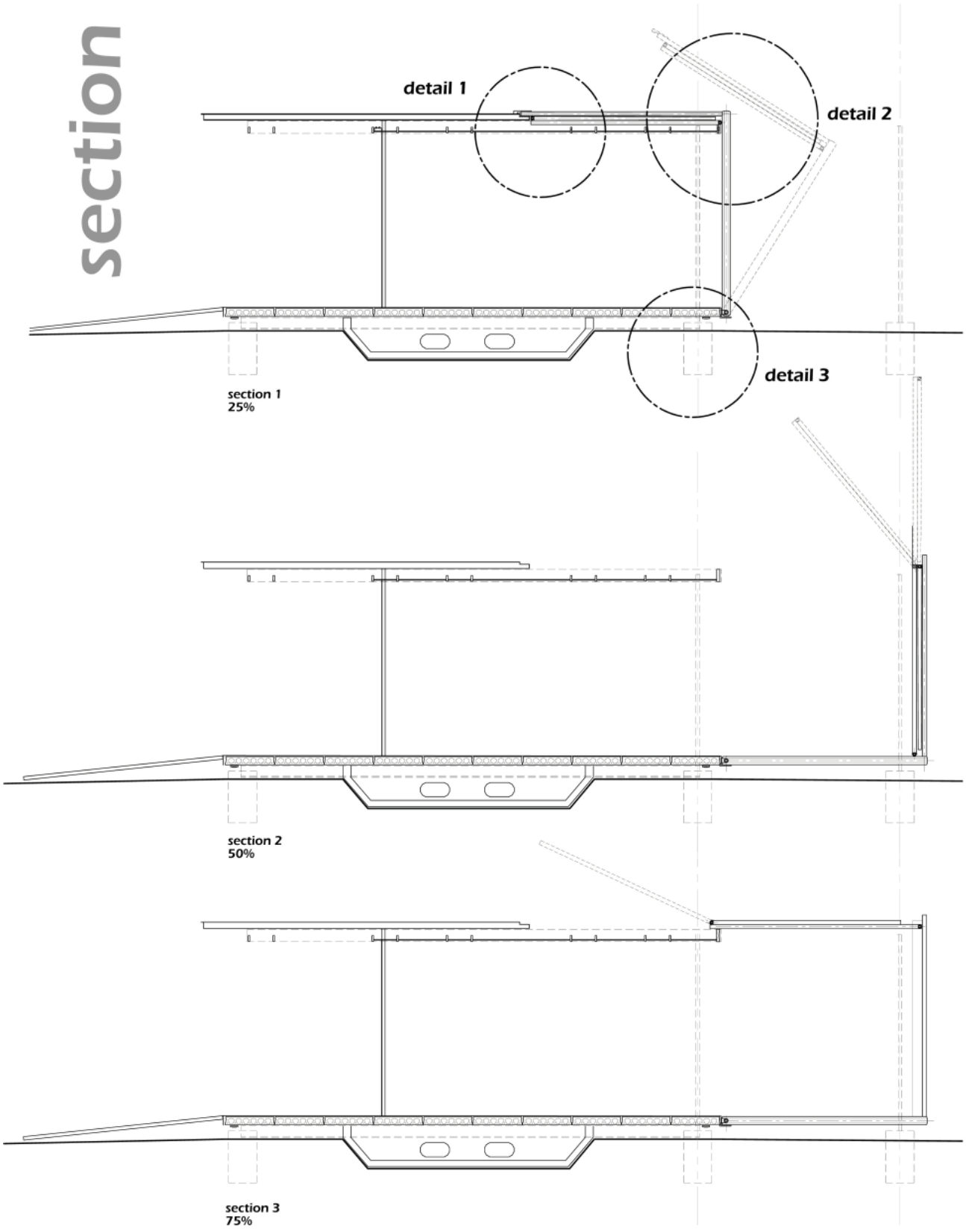
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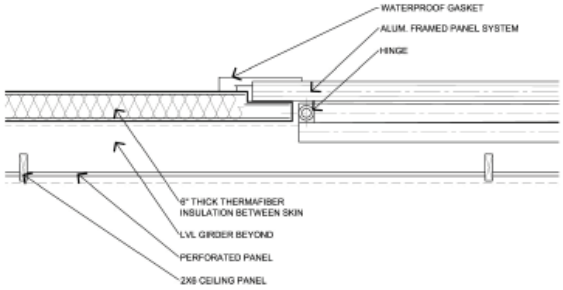
(figure 5)

The hard + soft strategy also uses materials to explore full scale details. For example, the concrete mesh exploration is a material strategy for the soft spaces. Together the concrete and mesh become lightweight in appearance while creating a sort of ephemeral quality by the manipulation of light. While the Copper Snap tie concrete wall panel system is an exploration of the heavy strategy that reveals the changes in material quality over time. The ties will naturally patina creating streaks of green on the panel system. (figure 4)

These details (1,2,3) investigate the flexibility component of the workshop space. The soft parts of the building are ephemeral meaning that they transform as a reaction to the economic conditions. The flexibility allows the expansion of space that is required by an entrepreneur. These details look at how the materials come together and allow tolerance for opening and closing these expansions. Detail three investigates how the building meets the ground. The building is slightly elevated to create a soft appearance and uses exterior illumination to amplify this effect in the evenings. To critique this design, the unfolding of the workshop space would be extremely expensive to construct. The idea was that a single person could fold and unfold parts of the building. With the size and weight of materials this design could not work without the assistance from additional hands or an expensive hydraulic system.
(figure 5)

1



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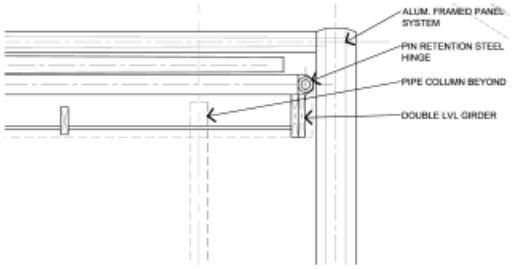

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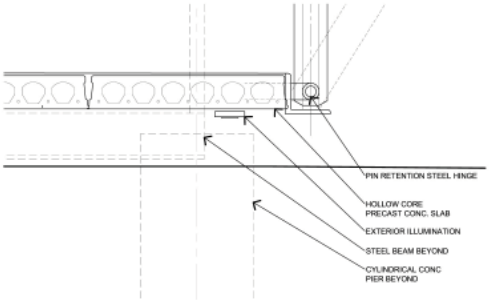
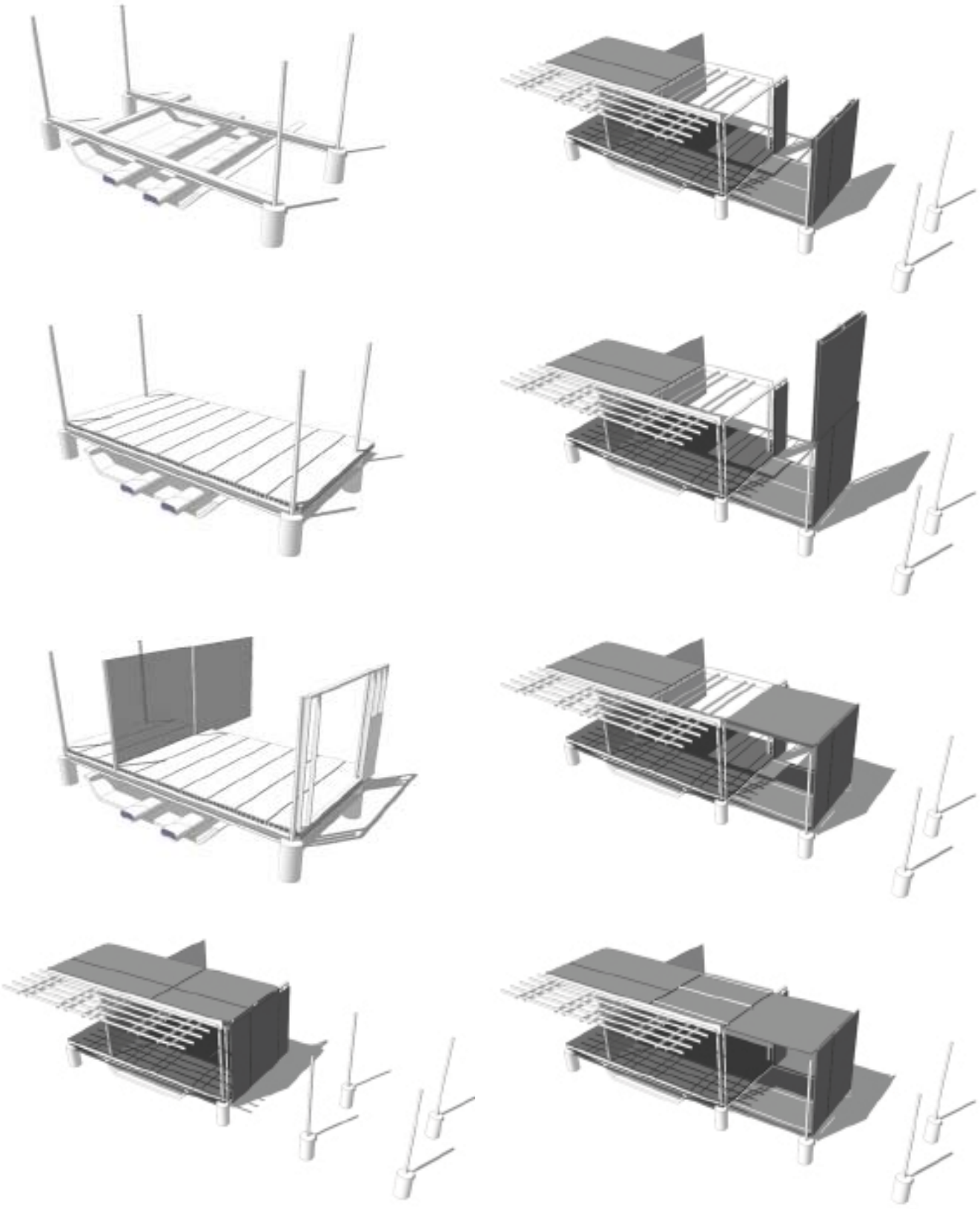
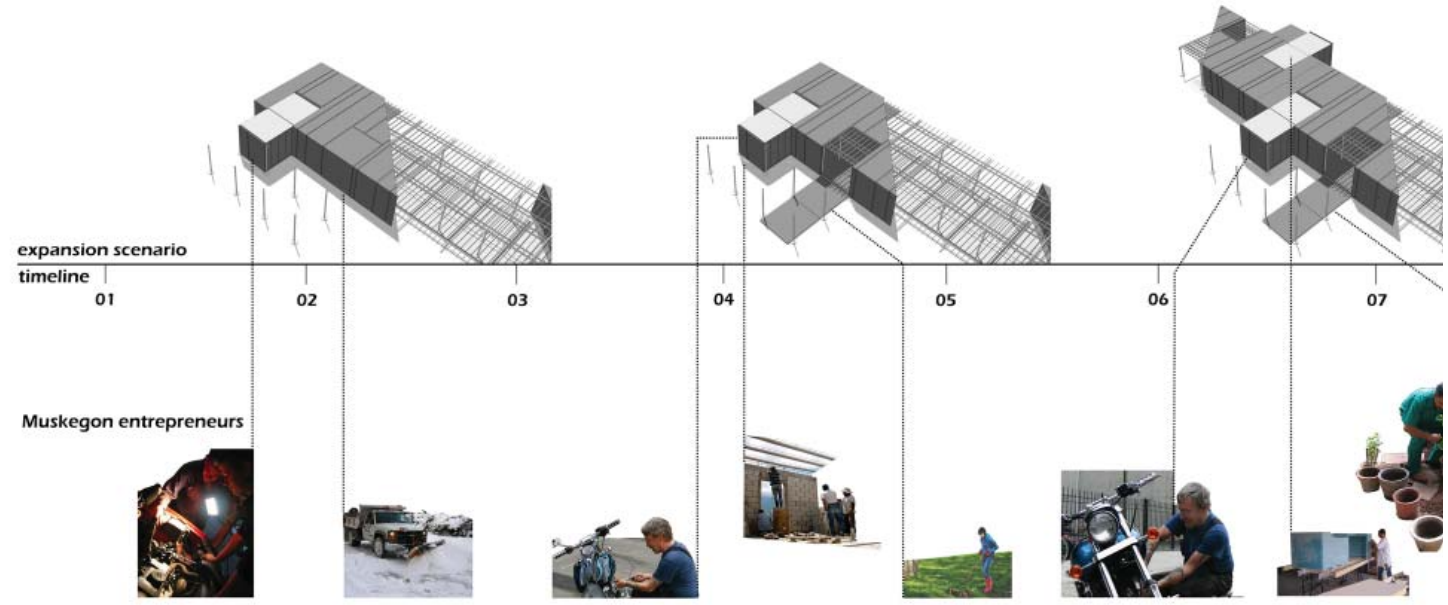
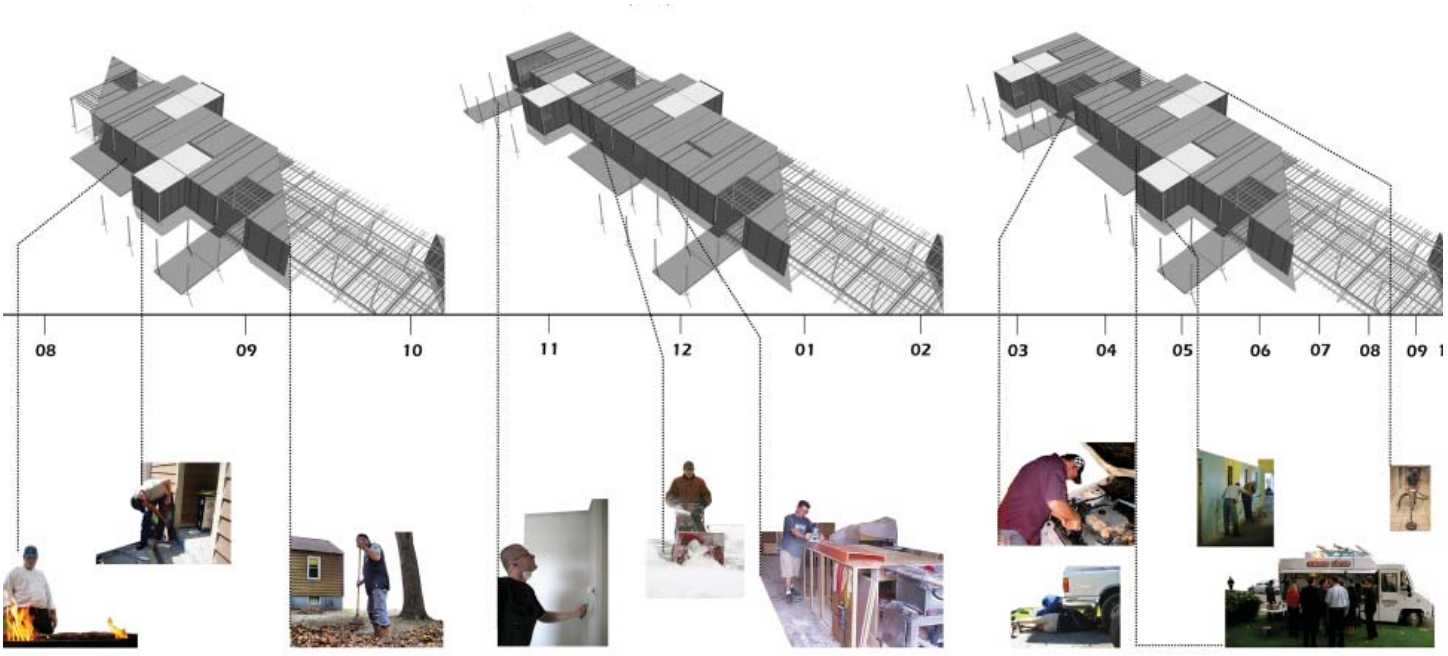




Modular Expansion Scenario





Building Expansion Scenario


1
2
key
site
lake shore trail
renaissance zone
downtown economic dev

(figure 1)

Retail Incubator

Final Design

The downtown "retail incubator" is designed for entrepreneurs to rent space for services that require a high level of exposure such as tattooing, a salon, and space to sell manufactured goods such as custom furniture, a fitness area ,and a cafe. This site utilizes a vacant building for reprogramming purposes. It is located along the Lake shore trail development, a renaissance zone, and adjacent to the downtown economic development plan. (figure 1) The strategy for this retail incubator is to promote pedestrian activity by activating the bookends of Main Street, Muskegon by drawing customers to the retail incubator.

The site is also designed to allow entrepreneurs to sell products at a seasonal flea market. The density of programs in the building is meant to promote some shared customer traffic for these start ups. In the evening the incubator wedge becomes a glowing LED beacon that is programmed as an advertising board for entrepreneurs.
(Figure 1 and 3)

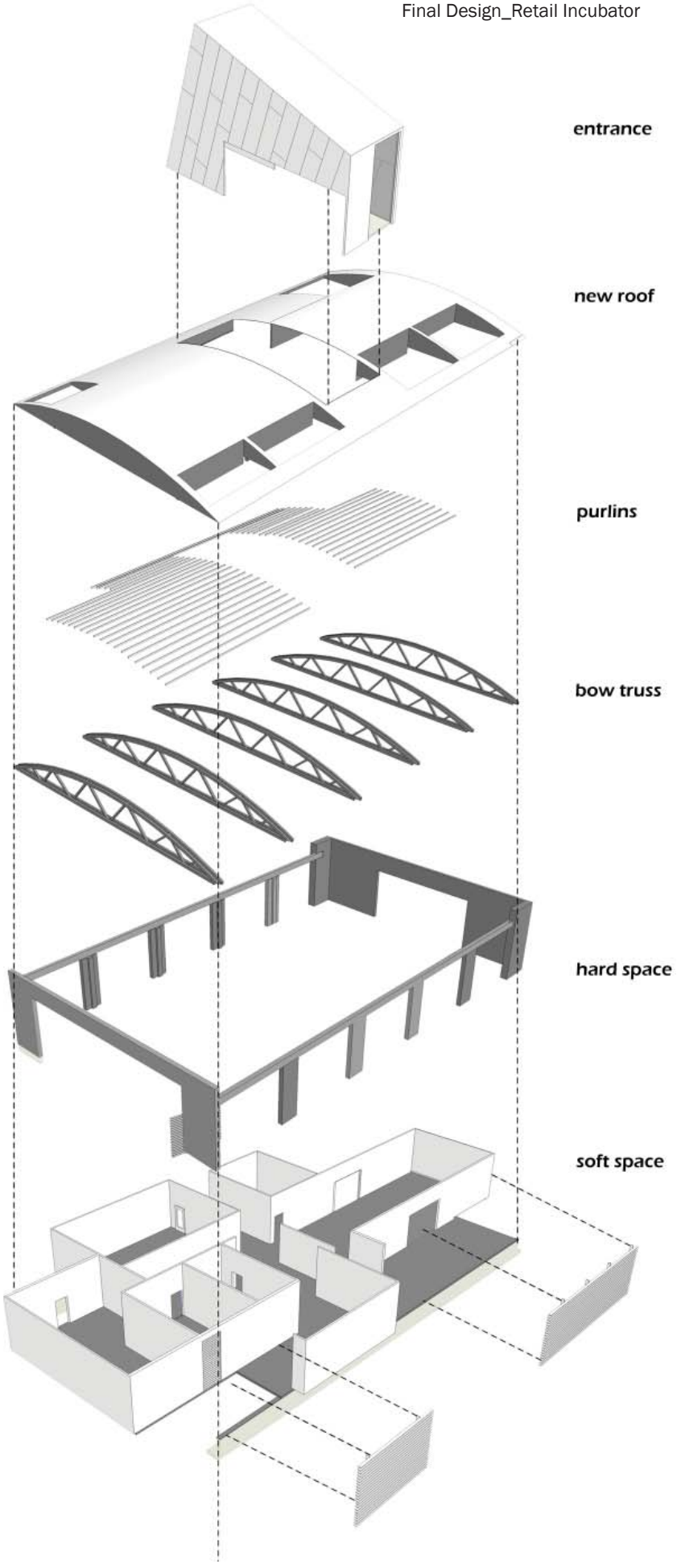
However, as a personal critique the building design struggles with street engagement, in which each entrepreneur does not have much personal storefront exposure. The horizontal wood panels could have been a glazing material that would allows this to occur. In addition, this design exploration lacks the accommodations for different kinds of business moving in and out.

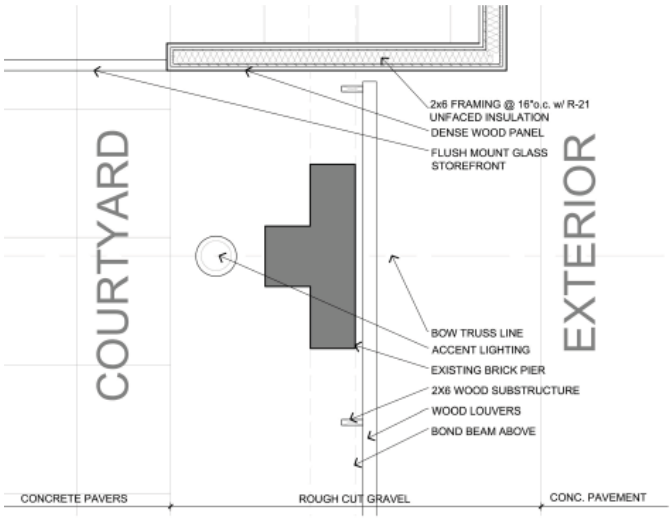
(figure 2)

plan

(figure 3)

Fitness Space


entrance
new roof
purlins
bow truss
hard space
soft space

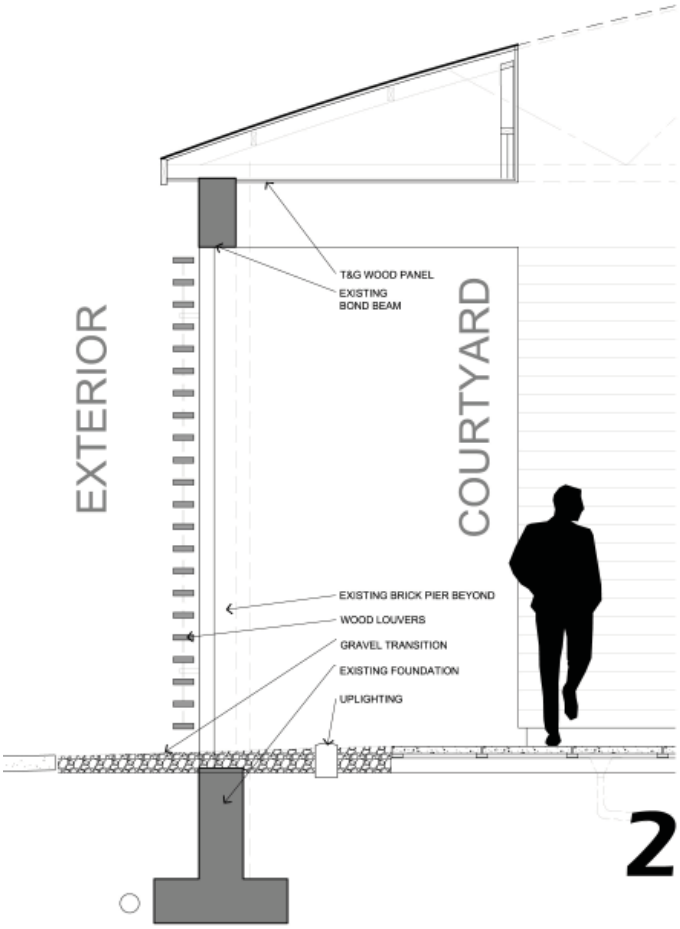


1

The Hard + Soft strategy is a relationship between the existing structure and new woven space between.

These details explore how the existing heavy structure such as the concrete piers, bond beams, and brick relates to the new light weight insertion such as the horizontal wood paneling and wood screening. The new space is woven between the existing structure and creates a dichotomy of interior and exterior. The relationship between materials is explored in the details and poses the question: how does the new woven space meet the ground? What is the relationship between the interior space and the exterior? How can the materials poetically reveal this transition?

Detail 1 shows how the new woven space and how it is fit between the existing piers. The woven space is held back from the pier and uses gravel for the ground material to create a transition from courtyard to the exterior space. This transitional space is further explored with exterior illumination. Up lighting is designed to wall wash the piers and the wood louver.



2

Detail 2 also shows the relationship between the interior and exterior. The wood louver is the transition between courtyard and exterior. The screen is used as shading device for the late evening sunsets on the West. The use of gravel is also used when making a transition from the courtyard to the landscaped exterior.

(figure 4)


cafe
fitness

CONCLUSION STATEMENT

To critique the final design, there are a few issues that were not fully explored. The first issue has to do with the “grey” economy. The scenario that generated the design focused mostly on the service sectors. The central theme of this thesis anticipated the exploration of the bartering scenarios that are occurring in Muskegon as well as the global economic conditions. The possibilities for the exploration could have put more emphasis on the web based economies and the bartering scenario.

The second issue has to do with the idea that the grassroots organization would emerge out of necessity rather than large capital investments. If this thesis truly explored the possibility of architecture facilitating an emerging group of entrepreneurs, the explorations would require immediate collaboration with the users, financial planning and a business plan. The finance to get this organization going would be minimal and thus require a small amount of investment into any facility. The start-up would most likely occur within an existing building. Although the possibility of re-programming found objects and wastescapes still has potential for the necessary start up requirements.

Overall, the proposals in this book requires large amounts of capital and would not meet the immediate needs of an emerging grassroots organization. To truly act as an advocate designer, the actual entrepreneurs would have to come together and propose an actual scenario to design for.

ANNOTATED BIBLIOGRAPHY

Berger, Alan. Drosscape: Wasting land in Urban America. New York: Princeton Architectural Press, 2005.
Berger examines the relocation of the industrial landscape and the degradation of their post-occupancy. He challenges designers to identify the overlooked and "undervalued" potentials of the urban region and suggests a move away from the "heroic, modernist master planner toward the advocacy designer who engenders inventiveness, entrepreneurialism, and visioning."

Benedikt, Michael. For an Architecture of Reality. New York: Lumen Books, 1987.
Benedikt examines the "overlooked" aspects of architecture and offers a strategy to achieve architecture that is connected to reality.

Brownell, Blaine. "Material Witness" Architect Magazine. November/December 2006
Changing the awareness of materials and building products.

Cadwell, Mike. Small Buildings. Pamphlet Architecture 17. New York: Princeton Architectural Press, 1996.
An investigation in tectonics through the construction of a series of small buildings.

Frampton, Kenneth. "Rappel L'Ordre: The case for the Tectonic" Labour, Work and Architecture: Collected Essays on Architecture and Design. New York: Phaidon Press, 2002.
Frampton investigates GottFried Semper's Four elements of Architecture and their implication on current understandings of Tectonics.

Frampton, Kenneth, "Carlo Scarpa and the Adoration of the Joint." Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture. Cambridge: MIT Press 1995.
Frampton examines of the works of Carlo Scarpa and how they relate to detailing and the joint.

Frampton, Kenneth, "Towards a Critical Regionalism: Six Points for Architecture of Resistance." The Anti-Aesthetic, Essays on Post-Modern Culture. Edited and introduced by Hal Foster Bay Press, Port Townsend, Washington 1983
Frampton calls for a critical approach to the forms of modern civilization and of local culture. He proposes a mutual deconstruction of universal techniques and regional vernaculars.

Frascari, Marco. "The Tell-the-Tale Detail." VIA7: The Building of Architecture. (1984):
Frascari investigates the relationship between process and act. He identifies the detail as the generator of architectural form and as containing the "story" of designing and building. References the work of Carlo Scarpa as a case in point.

Holl, Steven. Juhani Pallasmaa. Questions of Perception Phenomenology of Architecture.
William Stout Publishers, San Francisco, 2006.

Hartoonian, Gevork. “Construction of the Not Yet Constructed.” Ontology of Construction: On Nihilism of Technology in Theories of Modern Architecture.
Cambridge: Cambridge University Press, 1994.

Krugman, Paul. The Great Wealth Transfer. www.pkarchives.org/
Krugman describes the biggest untold economic story of our time: “More of the nations bounty held in fewer and fewer hands”

Musso, Florian. “In Detail: Building Simply.” Simply Good. Berlin: Birkhauser, 2005
Musso proposes an approach to architecture that is derived from technical considerations and is invoked as an adoption to social reality and modern objectives.

Pallasmaa, Juhani. The Eyes of the Skin. West Sussex, England: John Wiley & Sons, LTD.,2005.

Pye, David. The Nature and Art of Workmanship. Cambridge, England: Cambridge University Press, 1968.

Robbins, Stephen P. Managing Today. Prentice Hall Inc, 2000
Contemporary managing strategies for a global market.

Schumacher, Patrik Rogner Christian, “After Ford” Stalking Detroit. Publishing by Actar Barcelona, 2001
Defines Fordism and outlines the emergent Post-Fordist socio-economic transformations.

Williams, Tod Tsien, Billy Art and Use. New York, New York: Monacelli Press, 2007
A series of selected works with an overview of the firms approach to design.

Williams, Tod Tsien, Billy. Work Life. New York, New York: Monacelli Press, 2000
Defines the philosophy of approach to architectural interventions and a series of recent and early works.

Yale School of Architecture. Carlo Scarpa: Drawings for the Brion Family Cemetery. New Haven: Yale School of Architecture, 1984.

Zumthor, Peter. Thinking Architecture. Basel: Switzerland: Birkhauser, 2006.
Zumthor describes the aspects that a designer must consider when making architecture.

Zumthor, Peter. Atmospheres. Basel: Switzerland: Birkhauser, 2006.
Zumthor list the characteristics that make architectural environments.