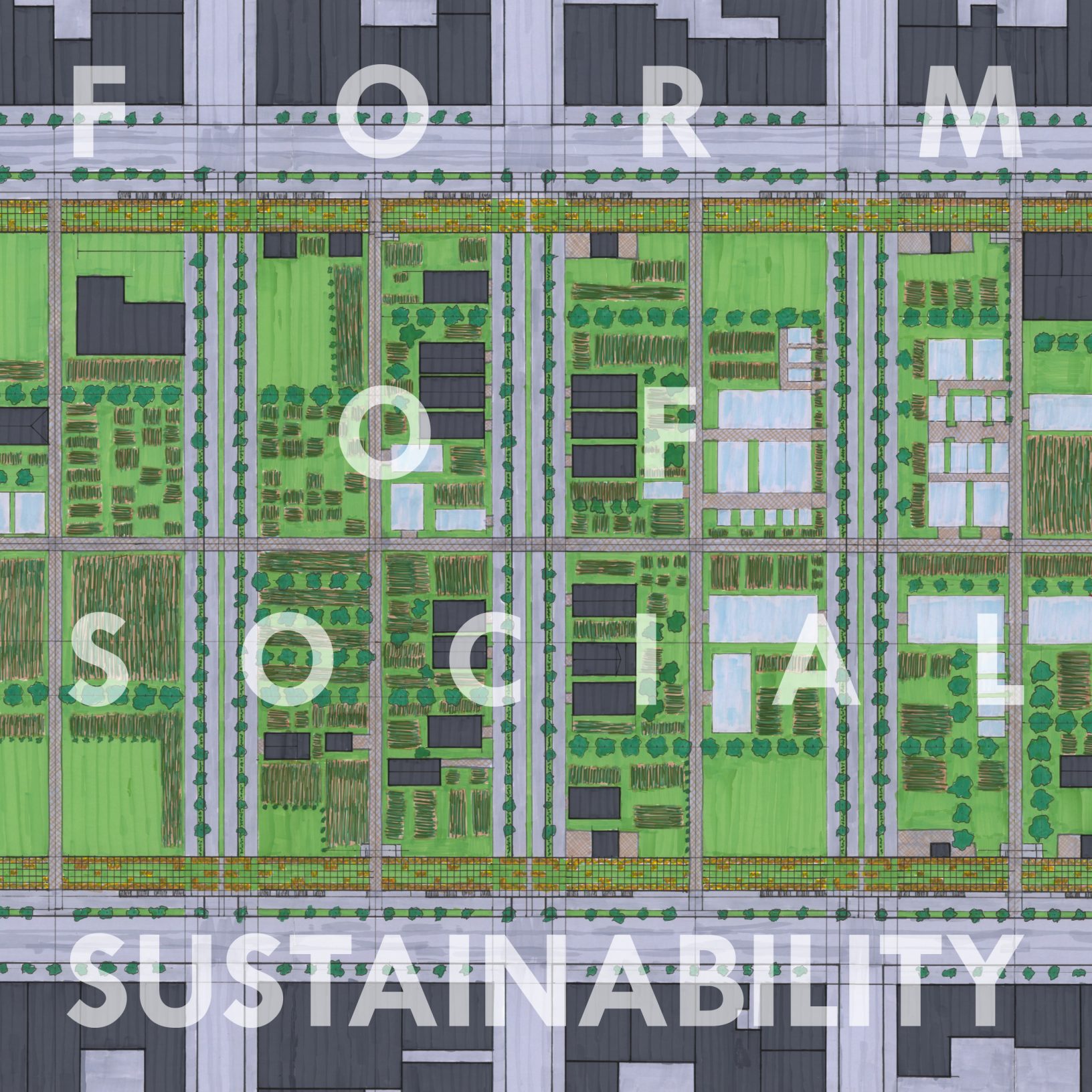
FORM
OF
SOCIAL
SUSTAINABILITY

FORM OF SOCIAL URBANISM

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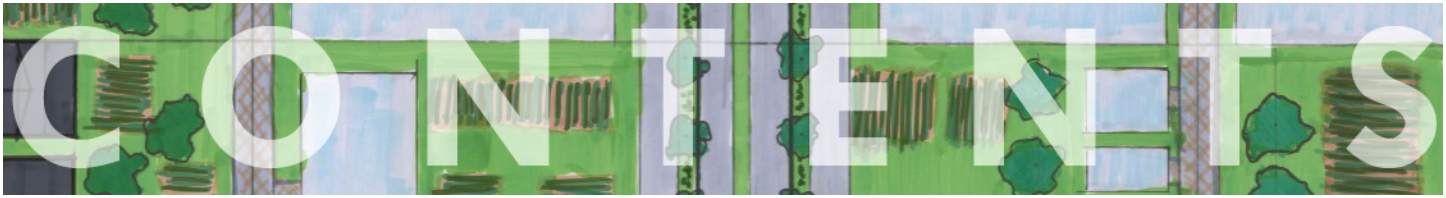

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William McDonough brought up in his book, Cradle to Cradle the idea to design for the "safety and well being of all children of all species for all time." In the book, McDonough and his co-author, Michael Braungart, focus mainly on chemical engineering and architectural practices. While admirable and valuable in those fields, it is not enough. In order to obtain any kind of environmental sustainability this world must also strive for social and economic sustainability. These forms of sustainability create positive feedback loops that ensure economical solutions for health and happiness of all people. The architectural and city planning professions have become increasingly aware of how the post WWII design decisions have negatively impacted every class of citizens of America. These design decisions focused on separation of land use, the introduction of rural design principles into our cities and a total dedication to the personal automobile. The practices that have spawned from these design decisions have passed the point of merely harming ourselves to harming the environment, economy and other individuals. The solution to these flawed design decisions cannot be solved entirely through the change in components or materials. There must be attention paid to the form our built environment has taken and move toward the pre-war models. Through insights and design principles from people like Jane Jacobs, Wendell Berry and Andres Duany, a form-based design focused around agriculture in devastated post-industrial cities can create vibrant dense neighborhoods with employment and food security.

With a myriad of problems facing the world, many possible solutions focus on engaging individuals of altering components. Social issues have spurred the growth of community organizations, volunteer programs, government interventions and humanitarian trips. Environmental problems have encouraged terms like: carbon capture, carbon caps, carbon taxes, cap and trade, and efficiency standards. Both sets of solutions have focused mostly on the components of the problems, one directly and one through incentives. They change how these components are arranged, what they're made of and how we use them. Most of these systems are based on efficiency of distribution systems or power use.

While efficiency is a needed goal, most of these solutions actually set out to make a currently existing system less bad. William McDonough and Michael Braungart stated in their book Cradle to Cradle, "In a philosophical sense, efficiency has no independent value: it depends on the value of the larger system of which it is a part."(pg. 65) The most fuel efficient auto may reduce carbon emissions but it will do little to ease the burden on tax payers, the environment and economy if we choose to drive them 40 miles a day. It is an important step to acknowledge that carbon emissions by autos must be controlled, however acting as though that were the only problem will lead to a less bad solution. Many of the problems associated with the auto can be prevented by simply using them less. Through this we can see that the answers to the auto do not lie in the autos themselves but outside. In order to create a sustainable auto we must design a system that relies on it less; which will involve work on infrastructure, buildings and community. What

Cradle to Cradle calls for is effectiveness, which may lead to, or include, efficiency but is much more comprehensive in the systems it creates.

Perhaps the largest problem with efficiency is its affects upon our thinking. It is somehow seen as efficient to focus on one problem in one system at a time. A designer or engineer creates a solution to one system and then moves on to another as if it were independent from reality. This suggests that the structure of the world is linear, which it is not. These systems are all part of a larger system and that system itself is part of a larger system. Still too often one sees the social, environmental and economical systems as completely separate from each other. In fact, they are all highly dependant on one another. The design problems a nation, region or city face are similar to the problems that a single house faces in creating a green residence. If one were to take a separated approach to greening a house they would take a standard sub-division "McMansion", add an inch of insulation, use efficient heating and put solar panels on the roof. They would quickly realize that this is a very expensive endeavor and settle for the "less bad" house. If you take a similar approach with a city by trying to solve the social issues independent of the environmental and the environmental independent of the economical one would end up with a "less bad" city at a huge price.

A house designed with integration in mind will need to be designed from the start with the intent of sustainability. The house will be: downsized to meet a more realistic life style, design will shape the house to respond to natural patterns like the sun and wind, add insulation to the point that the need for heating and cooling is drastically reduced or unneeded. These combined with locating the house in a socially stable and walkable community will create a sustainable house at a reasonable price. Problems we face cannot be dealt with individually; each one influences every other problem simply because most problems now affect regions, continents or the entire world. Tacking on a solution to fix one problem in a system will do very little to fix it. The entire system must be examined and reworked in order for real change to occur.

F E E D B A C K

Road systems affect how and where we live, which affects how and where we grow our food, which affects what we eat and what it costs, which affects our health. All of these affect how we treat the environment and how we treat each other, especially the disenfranchised. The social, economic and environmental spheres of the world are deeply connected. What happens in one sphere can influence what happens in the others and create positive feedback loops.

One clear example is Detroit. Once a bustling city, Detroit has been ravaged by the choices taken sense World War II. Social unrest lead to white flight; many upper and lower income families left the city for the suburbs. This was facilitated by the road systems which could carry large amounts of people from place to place for the first time. The loss of tax base within the city limits lead to the degradation of the built environment, which in turn lead to more social unrest. The dispersion of people also strengthened the reliance on the personal automobile.

Initially, employment stayed where it has been in most cities, the core. However, as one can see today in Detroit, most of the jobs have moved outside the city. Offices and factories moved outward into the surrounding suburbs and counties. Since most of the infrastructure money went to creating and maintaining roads any public transportation system was either crippled or destroyed. This meant that almost everyone had to drive to their employment, costing large amounts of income supporting the personal automobile. Since supporting a car can take up a large portion of a lower income pay check; many are left with two options: find work you can walk to, or don't work. The product that promised to bring freedom to all has left a considerable amount of the United States population crippled. It is not hard to see a positive feedback loop between social unrest and economics ineffectiveness. While the built environment decays quickly into abandon homes and strip malls; the natural environment decays decades later.

While predicting the outcome of the natural environment can be difficult, it's not a stretch to foresee the poor being the most affected. However, since most aspects of the natural environment that become derogated take decades to do so, it's likely that little action is taken until it is too late. Our technology also has the capability of prolonging action while still making the situation worse. In Wendell Berry's book, Home Economics, he describes the affects of the amazing cows that produce 50,000 pound of milk in on year.

> But what if her productivity is dependent upon the consumption of a huge amount of grain (about a bushel a day), and therefore upon the availability of cheap petroleum? What if she is too valuable (and too delicate) to be allowed outdoors in the rain? What if the proliferation of her kind will again drastically reduce the number of dairy farms and farmers? Or, to use a more obvious example, can we afford a bushel of grain at a cost of five to twenty bushels of topsoil lost to erosion? (Pg. 19)

This describes how modern farming methods destroy the soil; petroleum-based fertilizers allow farming to continue on substandard soil while often times making the situation worse. Once natural systems begin to collapse the people who will be less able to change their life style are the poor. Even without a collapse of food production, the current state of our farms is set up to produce the least healthy calories very cheaply. This has created the fast food culture which constitutes much of the inner city food intake.

This thesis will explore how to reverse these trends. How can we create feedback loops that encourage growth and prosperity in all spheres of this world and for all people?

F O R M

Rather than trying to address these topics individually, one can try to find common attributes that each has, such as people, money or materials. One thing they have in common is form. Of course, they don't share the same form but it is true that they each can be easily identified by form and that form is the most drastic way that these areas of modern life interconnect.

The physical form of the environment influences our behaviors and byproducts just as much as their components. The form of our buildings determines density, private/public spaces, and pedestrian interest levels. The size, shape and arrangement of our roads affect how we drive, where we live and work, where and how we farm and how we create new urban landscapes. Changing the forms we've adopted and invented since World War II cannot resolve all the problems we currently face. Nor can the American civilization change its form completely and quickly enough to solve problems many decades into the future. However, paying attention to form and making changes to existing locations when possible can help component based approaches become more feasible and powerful.

In order to be able to change our forms we must know how we ended up in our current situation. Throughout time the processes and reasons of how we came upon our forms of settlement have changed. In the distant past our forms were determined by resources, labor and ease of relocation. In the more recent past our settlements have been determined by distribution of goods, power and forms of travel (mostly by water or foot).

The physical forms of our cities have been responses to the circumstances of its times and the circumstances of the times have been influenced by the physical forms. The structure of cities changed as cycles of input and output influences become infused with new people and technologies. For centuries the changes in inputs have been slow and small, so that the changes in the structure of the cities have been slow and small as well. In more recent times the inputs have drastically changed. Technological revolutions, wars and new resources have created a rate of change unprecedented in human history. The forms that came from these new inputs have come from accidents, design decisions and dreams for a new way of life (some that have manifested and others that have been warped by practical reality.)

Z O N I N G

The first drastic input change came from the industrial revolution. New technologies and processes enabled efficiencies in crop harvesting and manufacturing that drove masses of people into the cities. Industrial

buildings and complexes sprung up near and among long lived communities, filling them with noise and pollutants. The cities were quickly becoming a dreadful place to live. The task of solving this problem was put upon the planning profession. The solution they chose to pursue to solve dangerously polluted neighborhoods was to take the industrial plants out of them and concentrate them in districts. Of course, they succeeded. By separating uses planners renewed the cities and were seen as heroes. However, this act quickly became a precedent for further planning. Planners began separating all uses in planning ordnances, including uses that for all practical purposes are completely compatible. In Suburban Nation, Duany, Plater-Zyberk and Speck write, "…The new American city has been likened to an unmade omelet: eggs, cheese, vegetables, a pinch of salt, but each consumed in turn, raw."

The amount of detail that planners will go into has gotten to an extreme. Detroit's ordinance contains 34 different zoning distinctions; seven of those are made up of business zoning. Not the most extreme but still far too detailed. One peculli ar aspect of the code is that under B1's (Restricted Business) by-right uses you can find shoe repair shop. Enjoying its privileged spot in the by-right section it is given more importance than conditional uses. The code presumes that a shoe repair shop should be considered an appropriate use for every parcel of B1 land in the entire 140 square mile footprint of Detroit. The absurdity of that amount of detail at that scale is mind boggling.

AUTOMOBILE

All this separation feeds the growth of the personal automobile. When cities were compact and mixed-use almost everyone could get to every day needs by foot, most actually had no choice. These pre-industrial cities were one of the most energy efficient places that existed. These cities developed from an epicenter, usually near water, and grew in concentric circles. By necessity, they were small and dense, enabling great mixture of people and ideas. As the industrial revolution took hold in western world, new forms of transportation came into the cities. Rail was one of the most influential of the new technologies. Development took a linear form,

following the light rail within cities and larger rail connecting settlements. This brought more people into the cities and allowed further distances to travel. Although the size of many cities exploded their density changed little.

The next drastic change in transportation was the automobile. The first form of personal transportation marketable to the vast middle class was unprecedented in its freedom of movement. Until the interstate highway was created, the auto created almost no predictable pattern of development. Fast transportation was liberated from the restraints of geography like rivers and inflexible rail lines. This allowed people to move out of the cities; leaving because of social strife or the dream of a town in the countryside. Of course, many people had those motives, eventually the suburbs became part of the fabric of vast amounts of sprawl. The size of metropolitan areas exploded while their densities plummeted. The vast amount of change came not only from the ability to go anywhere at anytime, but also the infrastructures dedication to pleasing the auto. Roads replaced streets and light highways masqueraded about as main streets: walking became unthinkable. Zoning by use insured that in order to go anywhere you needed to be in an auto. The devastating impacts of the auto upon the social, economic and environment have been mentioned in the positive feedback loops earlier.

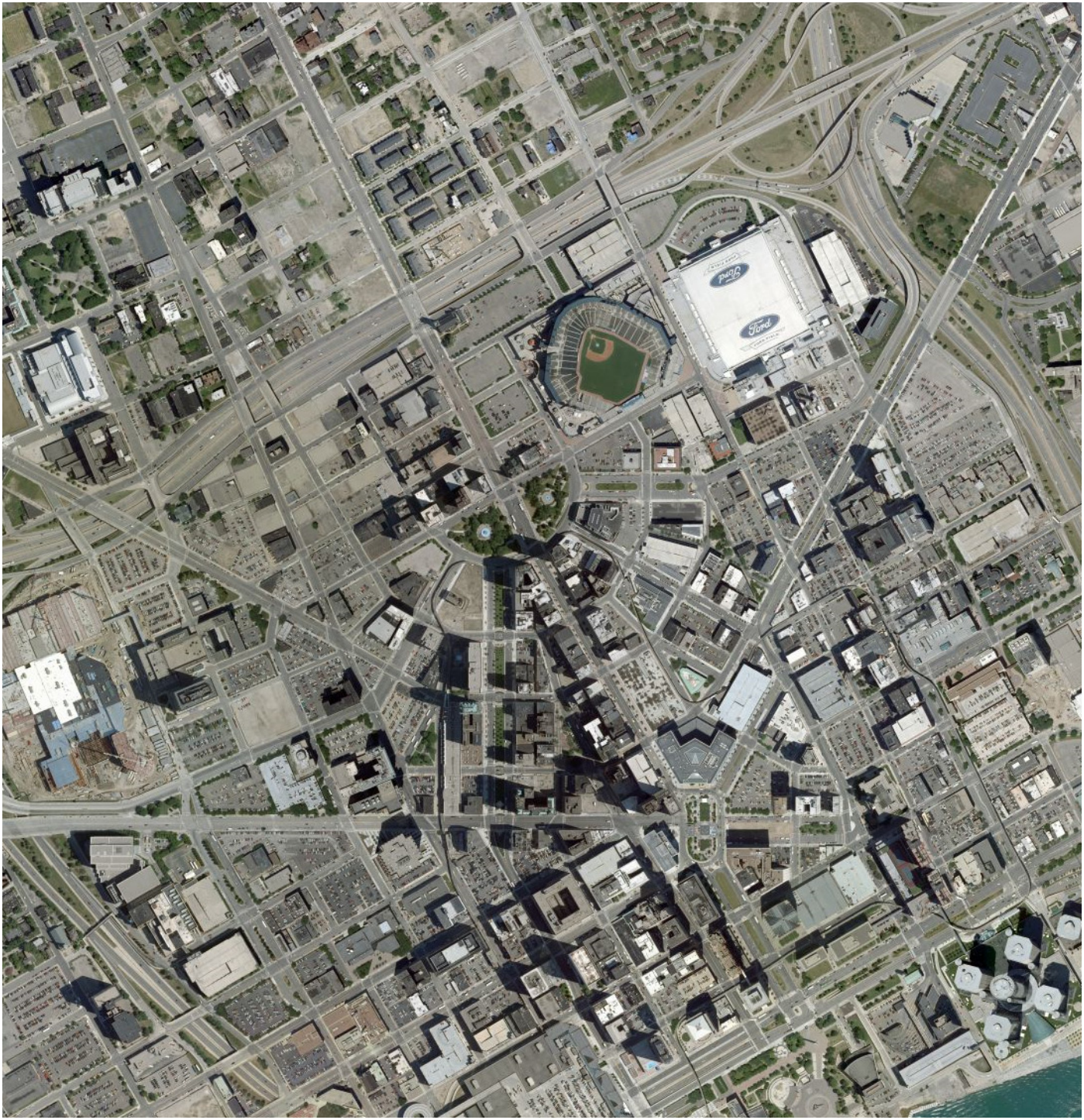
W A R

Most think of war as a destructive force, only capable of causing death and decay. For regions in the midst of a war that is true, but for countries helping from the outside the affect can be quite different. World War II played an essential part in getting America out of the Great Depression. However, as the war ended it set up a situation that would eventually lead to the decay of our built environment. The war effort employed many people, creating one of the largest forces of production. After the war ended there was a need to keep production up, in order to avoid another depression. This created what is now known as the Throw-Away Culture. There was also a great need for new housing as veterans from the war returned looking to settle down in suburban houses with their new families. This produced Levittown, New York, whose biggest

problem is not the homogeneous tract housing. In fact, the houses were created with the intent to be modified as the decades passed, making the houses more and more unique as time goes on. Levittown's biggest problem was in fact its urban planning. Separation of use became the model the new development took from this point onward. The affects of the war increased the impact of the zoning and automobile issues, which enhanced the affects of the war; a dangerous cycle.

FUTURE FORM

This thesis will explore how our form have caused problems we face and what form we should strive for in the future. What components of our built environment need close scrutiny? What form should they take and where will it come from? It will explore not only what should be our goal but how we should get there. What design decisions, incentives and tools will help create this new built environment? How will the automobile be used in this environment? How will zoning change? What is needed to create a community? What kind of businesses, anchors, housing, and transportation is needed? I will be exploring these topics with a site in Detroit; basing it around a need for a powerful anchor and a real mass transit system.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D E T R O I T

In order for a new form to be a positive influence on an area it has to react to the history; past, and current forms; economic, environmental and social conditions. Form also has to be specifically tailored to the use of that environment. This has driven the program of the site to be determined by its attributes. Through the early exploration of the thesis the program was actually very loosely defined. As the site was narrowed down further and further new aspects of the project emerged. Thus, the picking of the site carried huge weight toward the shape of the program. The main criteria for choosing the site were based on need and opportunity.

Looking at American cities it is hard to find a city equal to the population of Detroit and worse off. Incomes have plummeted and unemployment sky rocketed when middle and upper class families left Detroit. Social issues also plague the city. Problems range from food security and homelessness to lack of transportation and failing schools. There isn't a need merely for solutions to these social and economic problems, but also a need to change the form itself. None of these problems can be completely solved with a change in administration of funding alone. The people of Detroit are suffering from the forms that have been imposed upon them. The highway systems in Detroit have cut through once active neighborhoods and created decaying edges of incomplete and scattered communities. The amount of money spent to create and maintain these arteries for the automobile could instead have been used for vertical infrastructure, like schools. The main streets of Detroit have often morphed into a suburban sprawl model. Places that haven't shifted over to the sprawl model have instead decayed; buildings become vacant, lots were torn down, and then left to grow wild or are turned into little-used parking lots. As the cities citizen population shrunk large portions of land have become virtually empty. Driving through some portions of Detroit one feels much more like traveling through small farms; the fields unused, cut by empty roads and scattered with deteriorating homes. As bad as some parts of Detroit have gotten the needs and amputated built environment do offer possibilities.

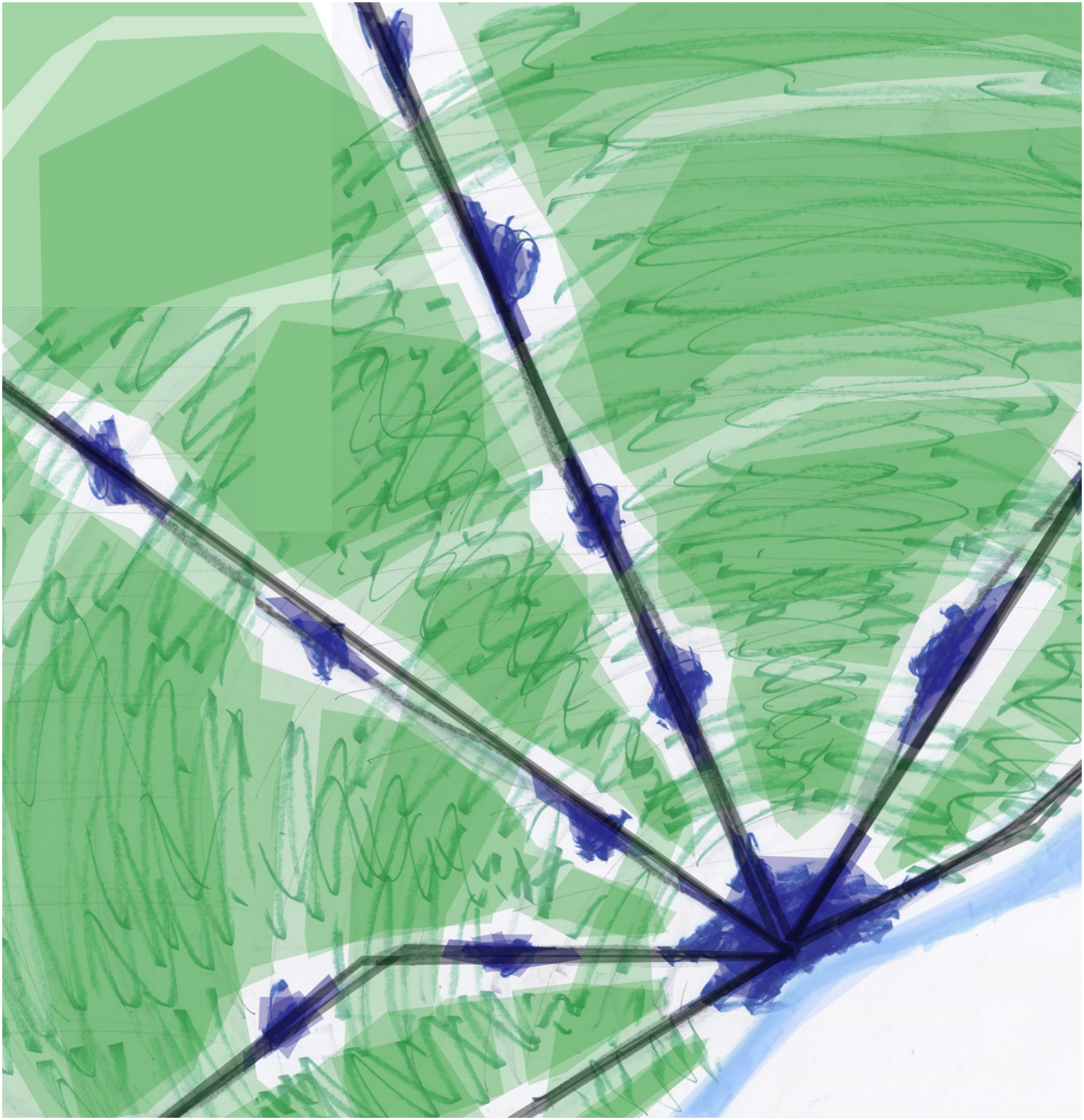
The opportunity that Detroit and cities like it offers is quite unique. It is equivalent to someone taking an eraser to a story in a book. The lines on the page remain but the text is broken. Some pages have lost little content while others are scattered with lone words; lost without their context and in danger of becoming erased themselves. The opportunity for planners, designers and the communities in Detroit is to fill in those blank areas with meaning. Give context to the words and create the new story of Detroit. The story will not be a copy of the one that existed long ago. It may replace the more devastated chapters of children playing and families building communities with stories of parks, farms or new industrial opportunities. Chapter once filled with small communities far from the action of downtown may be re-imagined as important new hubs of culture and commerce. Chapters can change their meaning and content to fulfill important rolls in the new book of Detroit.

The concepts of New Urbanism may be worth reviewing here. New Urbanism focues on designing communities in a way that promotes mix-use neighborhoods, promotes walking and creates a feeling of ownership by creating character. One of the criticisms of New Urbanism is its focus on green field project near the beginning of its practice. How can a movement be sustainable when it focuses so much on the use of previously unused land? How can it be a creator of sustainable life styles when it started with a destruction of nature, often near already existing urban land? Detroit's position in redevelopment is, once again, quite unique. If it weren't for the road systems and the odd house some portions of Detroit could be considered green field sites. Other areas are comprised of limping main streets or communities regenerating their population just barely fast enough to hold off sporadic demolitions. Perhaps most interesting is how these areas connect and blend together. Some hard lines are drawn between holding patterns and decay. In other cases, one slowly sees more and more abandon houses and lots as one traverses areas. In some instances, the emptiness can completely escape the mind. Traveling down one of the radial roads of Detroit one could see the frontages of diehard retail shops and insidious fast

food joints and never know that one or two blocks to either side there were grasslands; hidden from view by a thin layer of minimal activity.

Detroit was chosen because it contains need and opportunity. It contains opportunity not because of any new administration or government action but because the amount of decay has surpassed strategies of conventional thinking. In a country where officials act as though their life depended on the next election, perhaps, oddly enough, the loss of hope is the only real reason for hope. Portions of Detroit will never be what they once were and that gives them freedom; freedom to take on new roles in a bold re-imagining of the book of Detroit. The freedom to change may ultimately give Detroit the power to become the center of southeast Michigan once more. It may soon have the upper hand; one open book surrounded by many, closed tight.

Bird's eye view centered on Forest Avenue shows majority of buildings demolished.



R A D I A L

When looking to reduce the scale from the city to a specific neighborhood, a location that would be in harmony with a larger vision for the city of Detroit was chosen. The city faces many problems related to the dispersed nature of its population. Low density regions of Detroit affect the safety of streets, unused land and infrastructure, lack of government services. The vision would seek to bring people into organized regions of higher density developments. The reasons for taking a strategy to solve these problems in many cases are self evident.

Dealing with the safety of streets and crime in cities usually calls for the increase of the police force. However, as Jane Jacobs brought up in The Death and Life of Great American Cities, "...there must be eyes upon the street, eyes belonging to those we might call the natural proprietors of the street." Each additional person on the street imposes a greater chance of a crime being seen or stopped, and therefore it's less likely to happen. Concentrating citizens into a specific area and getting people to use the streets again will lead to that area becoming inhospitable to crime. Moving families from areas of blight and scattered housing to regions of possible new growth has the advantage of creating larger chunks of open land that can be reused in different ways. Several areas of Detroit have open land in abundance. However, that open land is speckled with lone houses and commercial builds; reducing the surrounding lands capability to be used for any positive new way. These lone buildings also require that the road grids in that area be maintained, even if to a minimum standard, to facilitate movement for the residents. This further cuts the land into smaller and smaller chunks. If these buildings could be deconstructed and unused road torn up, these areas would be worth more in the eyes of community planners and industries needing large spaces. Perhaps farms could arise and support local restaurants and markets. Community planers could propose parks of a variety of conditions, both highly urban and rural. Green industries could use larger blocks to facilitate manufacturing of green building materials or power generation. Concentrating the 40 square miles of unused open space into large chunks could provide

unique opportunities for new industries, recreational space and jobs. Shrinking the areas of urban development also has a positive impact on the government services. Rather than looking at government services as being dispensed based upon the number of people served, it is helpful to think of land area served. With Detroit's current form, cutting back on services means some citizens will have to do without. A denser population would reduce the amount of services provided by the city without having citizens left in the dark. Small compact developments also offer the opportunity to create an efficient and effective mass transit system.

Detroit can not maintain its current transit system. Officials point out that many busses run their route mostly empty, while citizens complain about how the buses are unreliable and slow. Detroit's current system simply has too many routes. Drastically reducing the amount of bus routes is the first of many steps toward creating a system that moves the most amount of people at the least amount of cost. In order to do this, communities must be designed to be serviced by only one or two stops. Designing with the five minute walk (or ten minute for transit stops) must be the focus of development. Choosing the correct streets for such a development is crucial. The most logical streets to focus developments on are the radial streets of Detroit: Michigan, Woodward, Gratiot and Grand River. These radial streets shoot out from the heart of downtown and extend past the city limits connecting Detroit with the surrounding suburbs. Choosing to develop along these boulevards (incorrectly named avenues) will allow for a single transit route to service many neighborhoods inside and outside Detroit. Since these roads all connect with the downtown of Detroit, they would also serve to focus importance where it should be, the heart of the city. Due to funding issues routes would most likely be an integrated bus system similar to Curitiba's in Brazil. As time went on and a larger system was need the radial streets could easily be retrofitted for light rail.

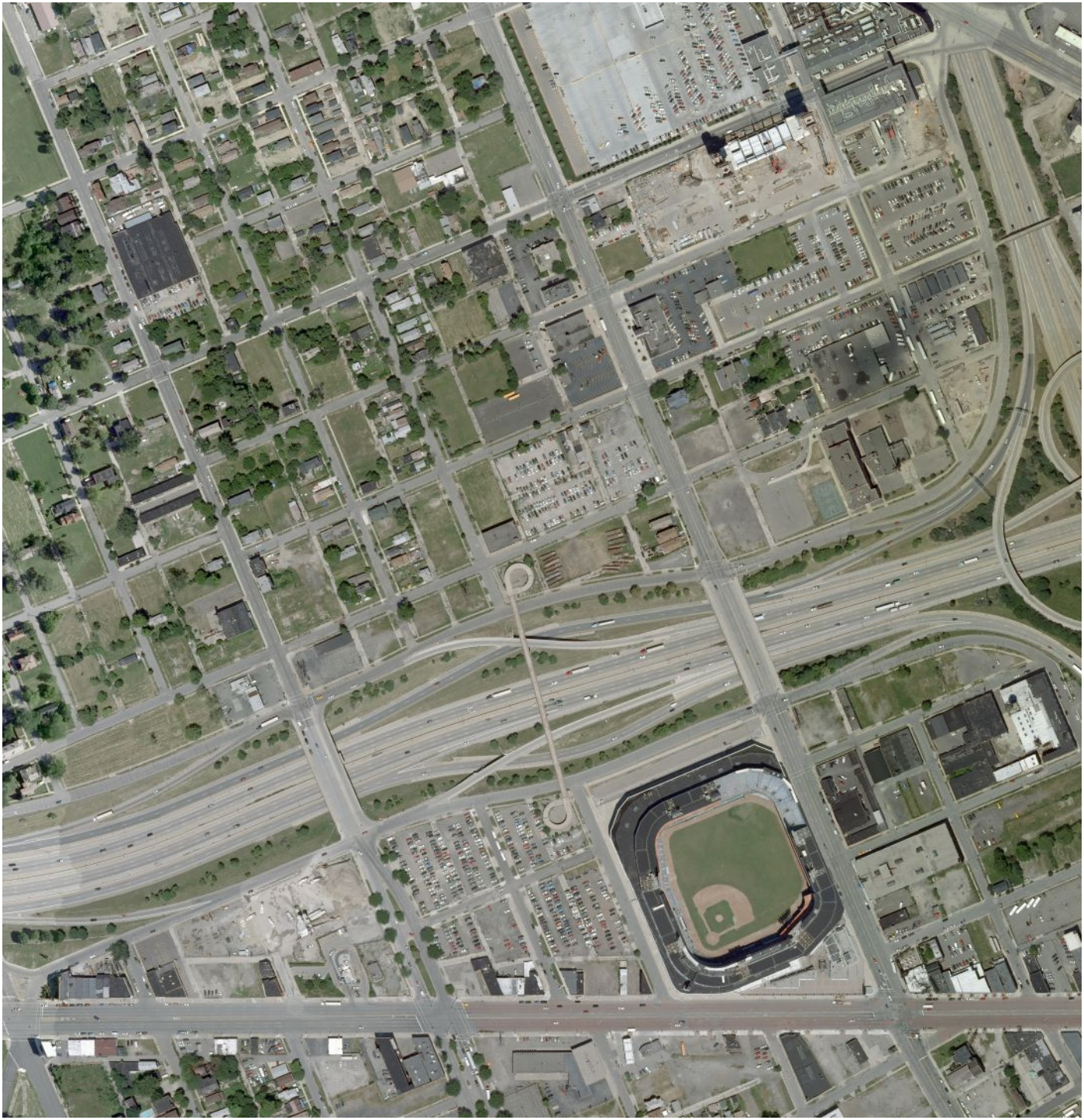
My criteria for choosing a specific cite was based upon being along one of the radial streets of Detroit and having enough open land near transit line

that could be reused to create a unique character for the new neighborhood.

INSTITUTION

The feasibility of a new transit line was something needing attention from the start. While many cities can use the transit system as a catalyst for development, using it in Detroit as the soul catalyst seems lacking. In order for communities to be successful they need anchors. The project proposes creating anchors for each new development. The anchor would serve as the major hub of development and would be determined based upon the characteristics of the site. Like any anchor they need a certain degree of narrowness in its focus. However, since the anchor will be determining the character of the neighborhood it will need to be diverse on its impact in the community. On the scale of the city each anchor should be related in its purpose to bring order to the system, yet be differentiated to avoid creating a monoculture of employment that has crippled the city thus far. With these criteria in mind the anchors were determined to be research institutions focusing on a specific green technology for each individual site.

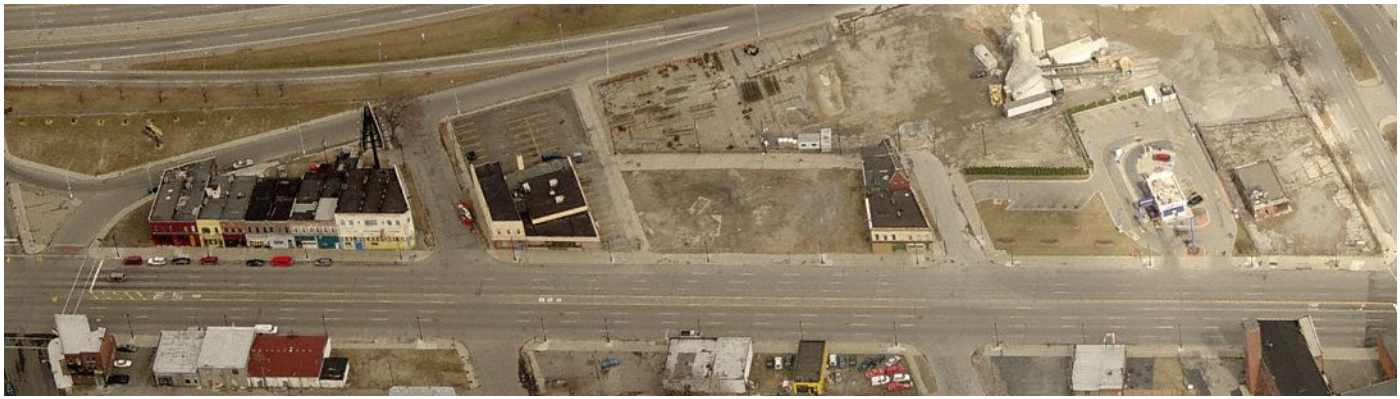
Research institutions can provide a large workforce to a community that would feed money into local restaurants, retail, entertainment and transit system. With incentives for local housing the institution could also focus on repopulating its neighborhood. However, even with the infusion of people and money large institutions can become unresponsive toward its community; neglecting it or perhaps even taking it over. The institution would focus on embracing the community; educating its citizens and using their hands and minds toward research. This would require the research topic to be not only something understandable by the average citizen but something that they can contribute toward with their skills.



MICHIGAN

A site near the old Train Station and Tiger Stadium on Michigan Avenue was in the first batch of preliminary choices due to its location on a major radial street and its abundance of open land, especially north of 75. One unique characteristic of this site was its proximity to several different forms of transportation. Straddling a major highway, on a radial street and near the old Train Station it was within walking distance of low speed and high speed automobile travel and fixed rail. These characteristics were used to determine that the site would be a good candidate for a focus on sustainable transportation. While the research focus fit well with the site it was eventually found to be the runner-up site. Many people are handy with their personal automobile, however in intricacies of creating new forms of sustainable automobiles or transit systems are far too complex for the average person.

Bird's eye view centered on Michigan Avenue shows the majority of land being taken up by the automobile through unused parking and a major highway.

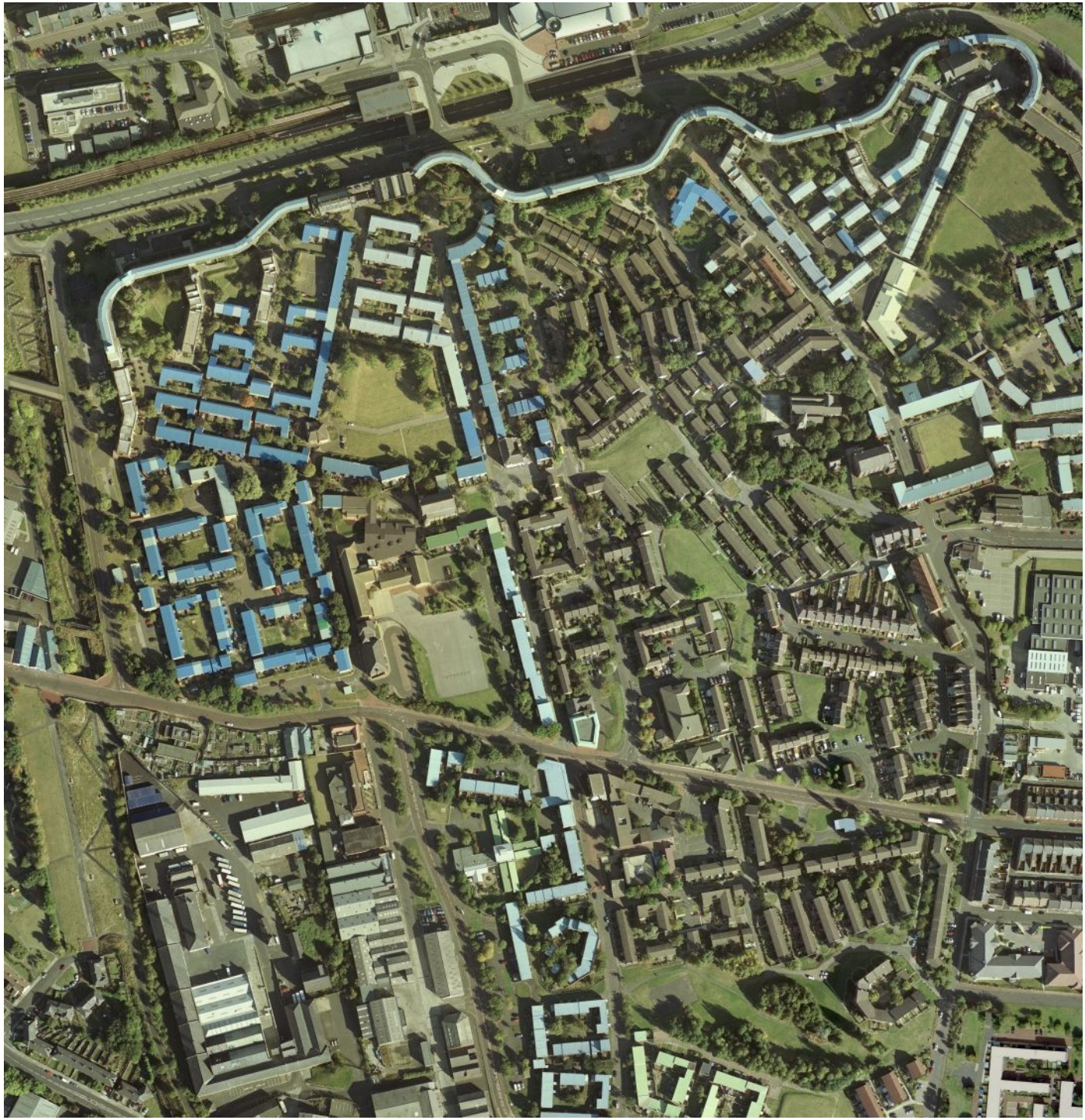


G R A T I O T

The Gratiot site is located north east of Eastern Market and west of the Heidelberg project. It was once again chosen for its radial street and its open land. Using its proximity to Eastern Market and its amount of open land the site was determined to be a promising location for agricultural research. The urban farming focus has a unique ability to engage the people of Detroit. Everyone has the ability to dig their hands into the ground and even though some of the technical aspects of agriculture have been lost in the cities they are easily remembered. The community could become employed in the test fields of the institution and employees could volunteer their time giving advice in community gardens. Classes could be taught after hours about timing of crops and collection of water. The institution could cooperate with the several community organizations already working in the city.

The institution could focus on how to alter the urban fabric to create the best environment for growing crops. On the smaller scale they could explore ways of creating the most calories on the smallest amount of land; empowering the people to create their own food security.

Bird's eye view centered on Gratiot Avenue shows open green space, scattered by a mix of sprawl and traditional buildings.



Precedents selected come from the specific issues addressed by the project. Some came early in the process and since the project evolved over time the nature, specificity and context of the precedents used vary. Since precedents were chosen to address specific issues, they are arranged by topic: housing, institutional, form and agriculture.

HOUSING

Byker Wall

Ralph Erskine

Byker Wall is a housing development in Newcastle, England designed by Ralph Erskine and built in the mid 1970s. It was chosen for its strong contrast to its surroundings, its variety of housing and uniqueness of form. The development was a response to the dominant form of housing in the area. The goal was to create a housing development with equal density to the previous condition while including green spaces and identity. Erskine largely succeeded in this endeavor. Creating an entirely new layout for the site based upon mediaeval settlements created a unique character for the site. Juxtaposed to the nearby residential streets it seems like a utopia. The Byker Wall site was much like the area to the north, consisting of rows of identical homes devoid of green and identity. It was dreadfully dull, lacking any color and completely undistinguishable from any other site or street. The project is now full of color and open green space.

As one wanders through the site they would encounter several different types of housing and even though these types are often clustered they are distinguishable through the unique setting they are placed in. The most noticeable aspect of the site is its wall of apartments along the north end of the site. Rising above the rest of the site and separating the project from the major road; it provides the densest housing on the site. As you move further and further away different types of housing are used, often distinguished by brightly colored roofs that add color to the site. Private outdoor areas are provided for most lots however they are usually very small and immediately adjacent to public green space which points to more communal living.

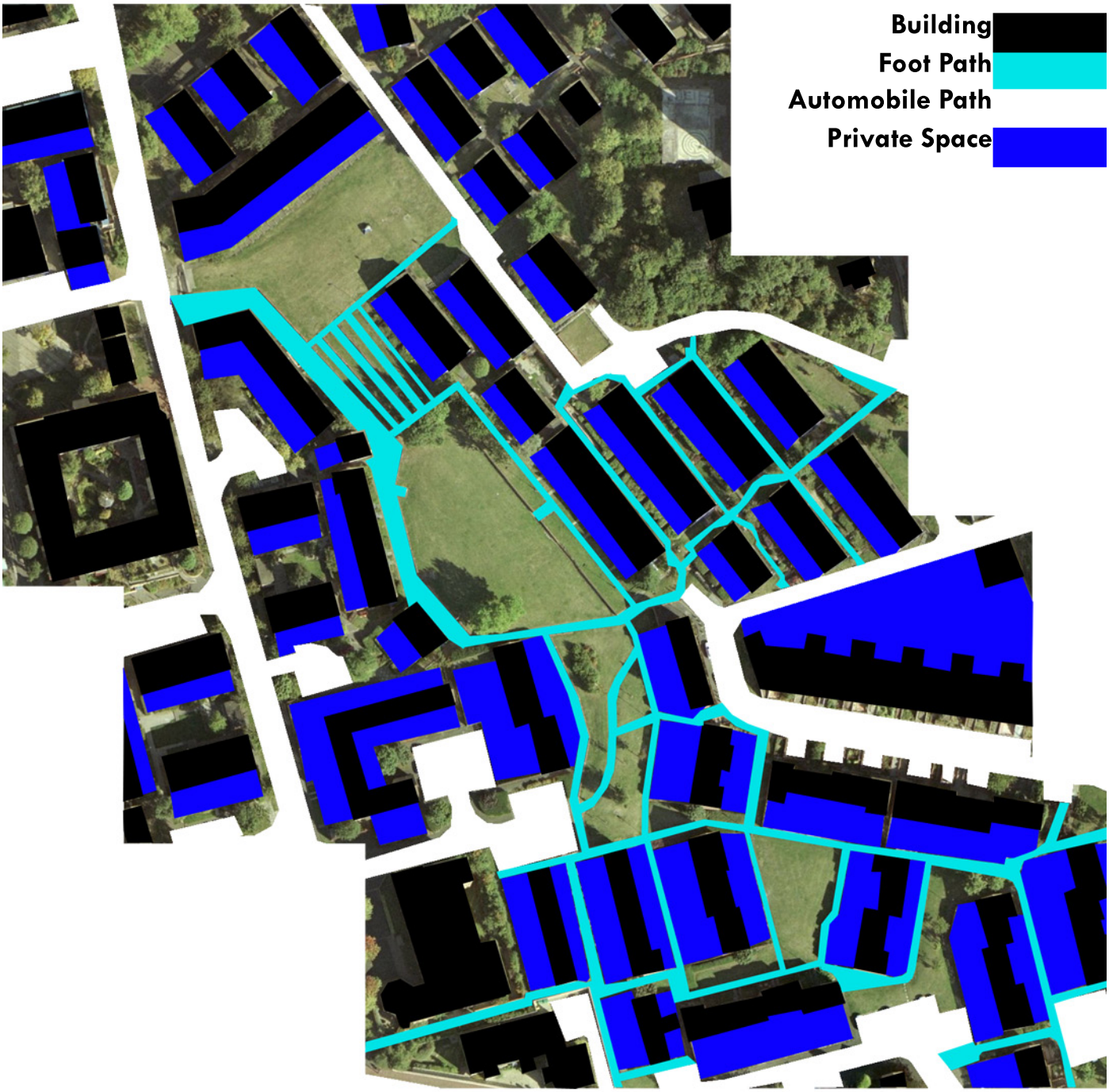
Less than a mile from each other, the Byker wall development has the same density as the prior development while including usable public space.

Other than its great wall and variety of housing, the form of Byker Wall separates it out from the rest of the city. One would quickly point to the wall of apartments to talk about the project's form, however the layout of the entire site is perhaps more interesting. Look at the plan, the site seems to straddle between good and bad, however, since it lies in a different context from an American development, it is hard to say whether certain aspects are actually harmful. Not withstanding its high density, Byker Wall shares many aspects with suburban sprawl subdivisions. For instance, its road system, although more connected than most subdivision, does contain roads terminating in dead ends. Several roads run themselves into confusing kinks that could drive unfamiliar drivers insane.

These aspect combined could lead to less traffic moving through the community, causing surrounding road to need to handle more traffic than usual. There are positive aspects of the way the automobile are handled as well. There only a couple of roads that have dedicated lanes for both directions. Many of the streets can only fit one car at a time making people drive slowly without the need for speed bumps. Parking is also kept to small numbers scattered around the sites. Even though the streets don't interconnect, all of the foot paths do allowing people to walk to their destination if it's within the site or nearby. Byker Wall also contains what Andres Duany calls, "a train wreck planning." This technique tries to replace vertical interest of buildings with horizontal interest in the plan view by arranging the buildings into odd angles. An image caption on page 47 of Suburban Nation reads, "Train wreck: planning in futile pursuit of the picturesque creates buildings without front, backs, or street addresses." This often leads to a confusing landscape containing ambiguous apartments and equally confusing parking. Although the residents in Byker Wall are arranged oddly, they resemble an ancient city much more than a train wreck. The buildings still respond to the roads around them and its quite clear what sides are the front of the buildings. Parking is also kept to a minimum which means these odd spaces can actually become useful communal areas; gardens, porches or shaded sitting areas settle into these voids creating useable space.

Byker Wall drastically revamped the sites characteristics and while this project will not seek to tear up the foundations of Detroit, it does offer inspiration and food for thought on how form can affect the


Green Space
Buildings
Parking / Major Road


Building
Foot Path
Automobile Path
Private Space

character of a place. Perhaps the new development could move away from the current traditional street grid while maintaining coherence.

INSTITUTION

University of Tacoma, WA

Mithun

University of Tacoma, WA was selected because of its similarity to this project's research institution. While the goals of a university and a research institution aren't the same, they hold enough in common so that making it a precedent is useful. The site for the campus was chosen to be in a similarly blown out portion of Tacoma. The university was placed there in an attempt to bring money and growth back into the community. Another aspect that is useful is that it was created recently. Construction started in the mid 1990s, which is interesting since most campuses in

Existing campus reuses several old industrial buildings which give the campus character. The campus integrates green space into a sloped terrain without loosing the urban quality of the site.

America have already been deeply imbedded into their neighborhood. Finally, The University of Tacoma offers insight into urban design through its goal of creating an "urban campus" that is connected with the community.

The site that the campus was placed on was and still is, for the most part, empty. Similar to Detroit, the blocks have degraded to a point where they hold few buildings. Part of the reason for moving there was for economical stimulus; however, it's not hard to see how this land was also the easiest land to acquire. Few would argue over land filled with vacant lots. Since the university has been started it has brought in a decent amount of money. Each student spends about $13 a week while faculty spends about $17.85 in the same amount of time. Considering the amount of students, faculty and the indirect spending affect, the campus is estimated to bring in $56,700 a week or $1.7 million of the academic year. Most of the money that has come into the community has been spent on the food sector, which points to the fact that most people still commute to the school. The increase in money is creating incentives to build at the location; several large scale projects have been recently introduced into the area, including museums and large-scale housing. (Perry, Wiewel Pg. 80-87)

The university had a goal to be a true urban campus with a focus of integration with the community. The campus currently site unfinished, just a couple of decades into its long term plan, many buildings still need to be erected. Still, one can see basic ideas by looking at its current state and future plans. The first major statement seen through the plan of the campus is its monolithic form. Although most blocks sit unused, the university has bought several blocks, creating one large mass, like an island in the city. This type of use of land creates something similar to a gated community. However, the campus currently has many mixed use buildings that contain retail and services; perhaps overcoming any negative affects from single owner.

In contrast to campus design of the past, which consisted of buildings in a sea of grass, this campus consists of buildings taking up a much larger portion of the site. This would help create an urban campus, although the plan also calls for the removal of several

Map from the University of Wahsington Tacoma, Campus Master Plan Update, Fall 2008 shows existing and proposed buildings along with two potential publiuc transit lines less that a quarter mile from the existing line.

Campus Development Plan

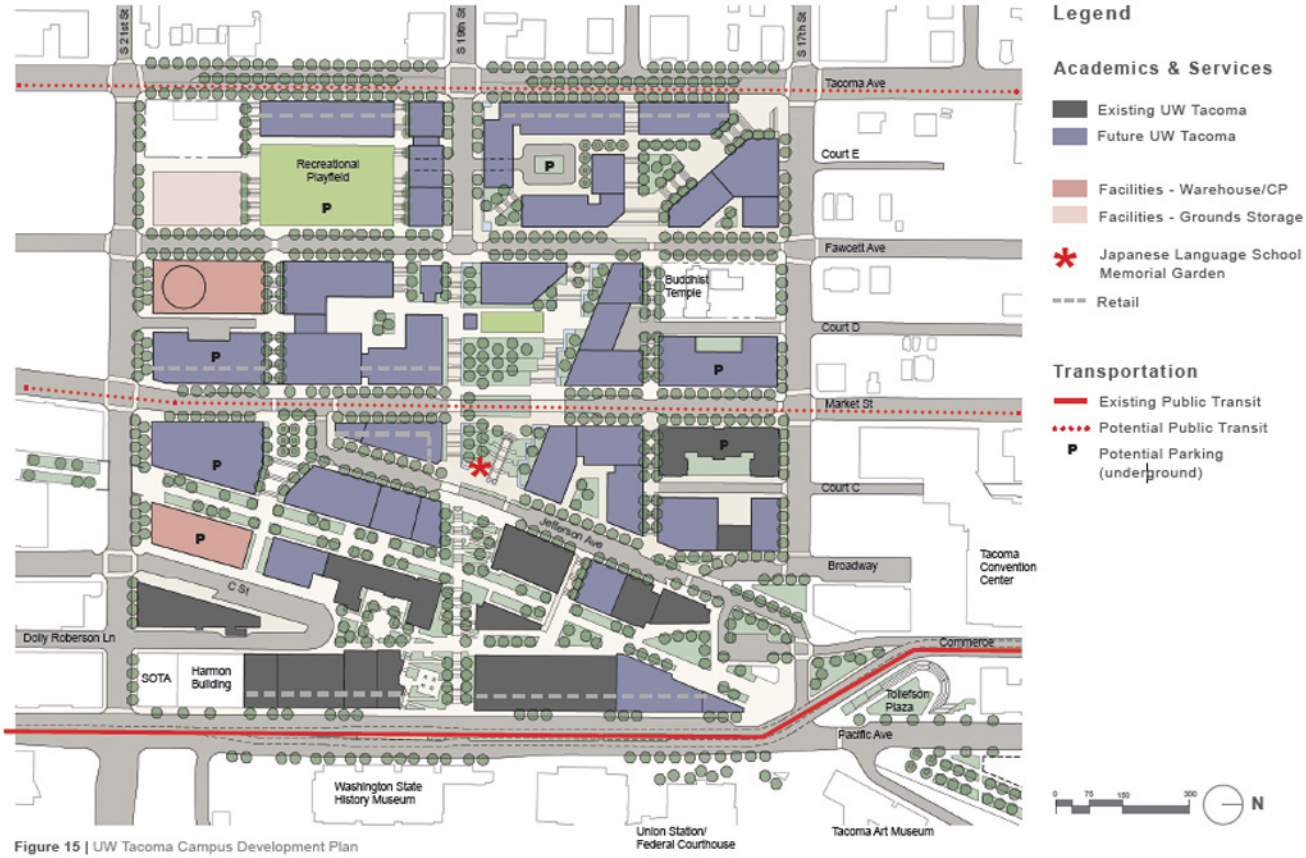


Figure 15 | UW Tacoma Campus Development Plan

Duany Plater-Zyberk & Company. Southlands, Tsawwassan, British Columbia, Canada. 2008

streets, likely wreaking havoc on traffic patterns and reducing the amount of visitors to the site. Still, the campus's dedication to mixed-use developments points to greater integration in the future.

AGRICULTURE

Southland, Tsawwssen B.C., Canada

Duany Plater-Zyberk & Company

This new development was chosen for its focus on agriculture, both within the town and out. While the size of the development and urban condition differ from the thesis project, it brought up several good points about urban growing. It clarified the properties of an agriculture transect and defined the size and intensity of farming. Even though the site in Detroit is going to be reaching much higher densities at its core it will still taper off rapidly into large scale farms. Everywhere in between the urban core and the rural agriculture will be different degrees of participation, intensity and profitability in agriculture: from extra ingredients for a salad to opening an occasional booth at Eastern Market.

The development was designed with agriculture in mind. There will be a university focusing on agriculture, which not only doubles the communities focus on agriculture but also helps create the town's center. The basic premise of the marketing for this new community is that you will come here to be a part of agriculture. Your part may just be maintaining a balcony box or kitchen garden, however your mere presence in the town, buying the crops grown less than a mile from you, will support a new model for living. One may not even grow a single plant themselves. The plan called for one third developments, one third for agriculture and the last third for recreation and nature. The final numbers came out to 42% for the agricultural portion. These figures contrast drastically with prior plans for the site which contained no farmland and any open space was leftover spaces from the houses proposed.

Through the proposal given for the project as well as lectures given

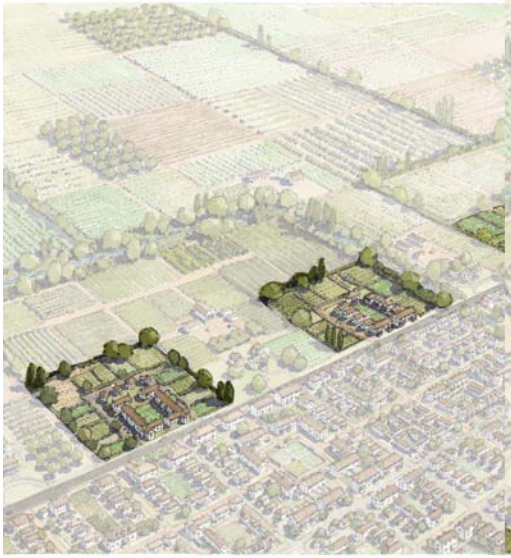
The rejected plan from 1989 took up almost the entire site. The very few spaces that are unused are simply left from the sprawl housing. The new plan takes up only 42 percent with development leaving plenty of land for farming and nature.

Duany Plater-Zyberk & Company. Southlands, Tsawwassan, British Columbia, Canada. 2008

by Andres Duany, one can get a clear grasp of the Agricultural transect. Transects were originally used to describe the difference and interaction of different natural terrain. It created zones that have unique characteristics and can support certain forms of life. It documents what those animals ranges are in the different transect and how they interact with animals in other transects. The idea of the "transect" is useful for human built environments because it can differentiate the forms of buildings, streets and finer details among the different sections. A seven story building doesn't belong in the suburban zone and a two story building doesn't belong in the city core. It can also define broader concepts like land-use. A single use building isn't appropriate in the city core but fits well in a rural setting. Transects in general will be used to define the form of buildings in the future development of this thesis project. One of the best properties of transects system of coding is that one system can handle many characteristics of the built environment. The same way it can define buildings it can also define types of growing crops. A 50 acre farm will not be able to fit into the urban context; it requires too much land. A balcony box on the other hand is perfect for urban growing. From completely rural to completely urban; there is a different degree of size and intensity of growing crops. In Southlands, Tsawwassen, B.C. Canada there are examples of every form of farming. Large 50 acre farms touch the town with thin limbs containing the home of the farmer. Smaller 12 acre farms create a softer boundary between the town and the majority of the large farm's mass. An even smaller layer of one acre farms will be interspersed in the remaining land. Finally inside the town, farming ranges from community gardens

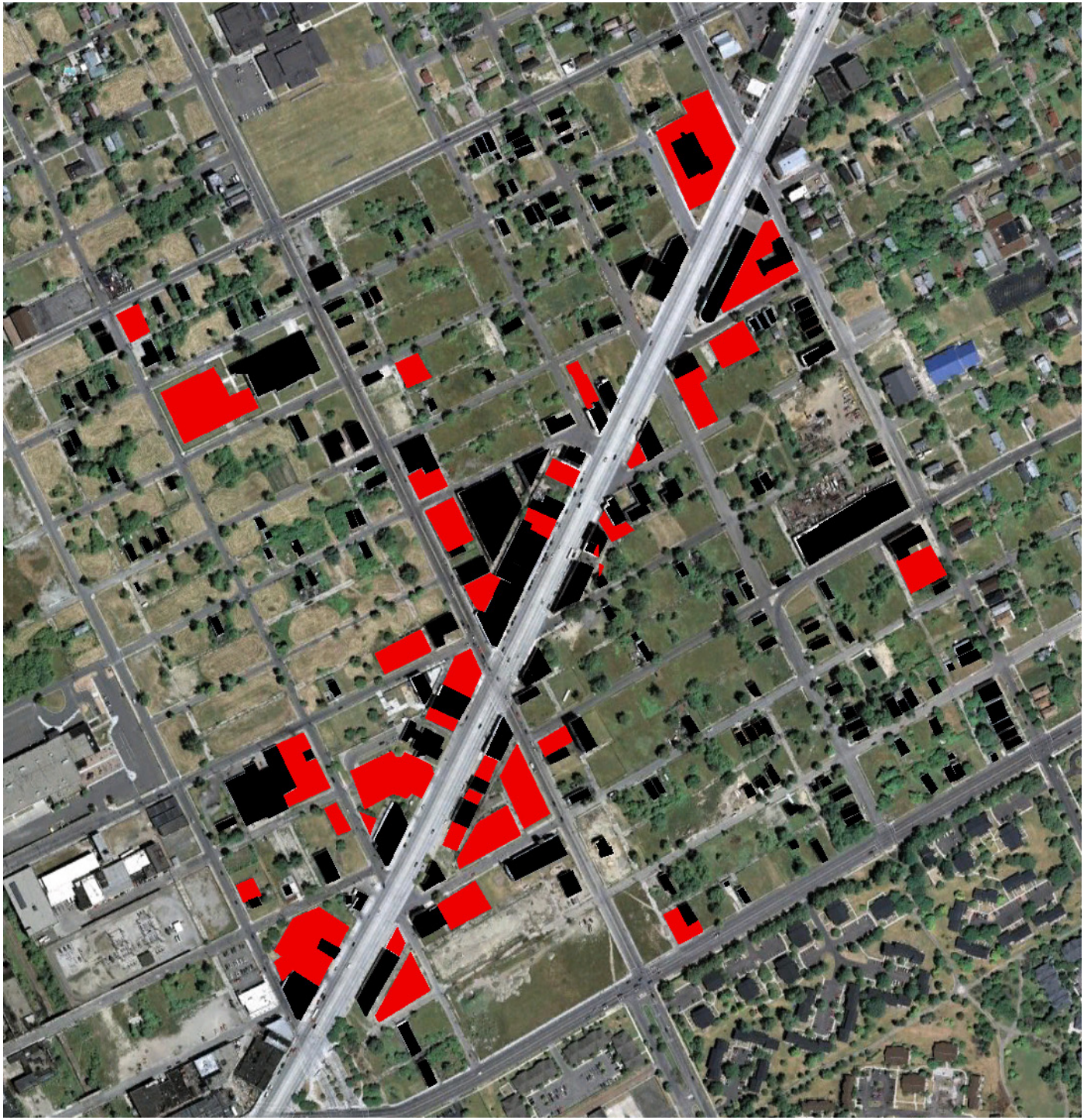
Agricultural transect by DPZ shows rural to urban forms of growing crops. Natural (T1) can contain foraging; Rural (T2) can contain larger farms; Suburban (T3) can contain specialty and small farms; while the more urban transects (T4-T6) contain small community gardens, kitchen gardens and balcony boxes.

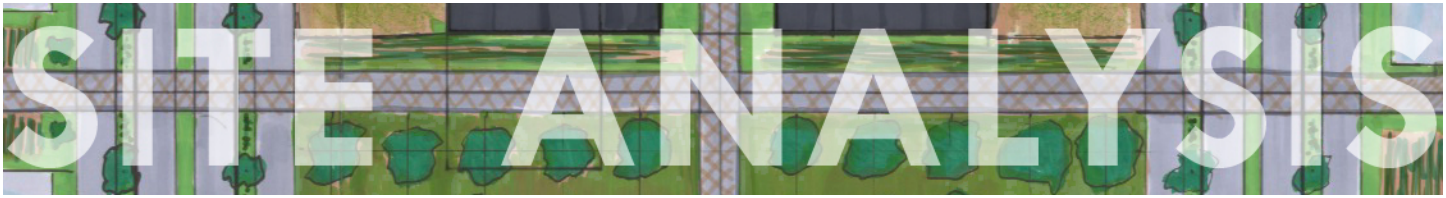
These illustrations from the Southlands, Tsawwassen, British Columbia, Canada design charrette, demonstrate how they transitioned from large scale farms to urban gardens. The transition allows for interaction between the rural and urban without forcing each upon each other.



Duany Plater-Zyberk & Company. Southlands, Tsawwassan, British Columbia, Canada. 2008

to window boxes. The design of the community allows people to be as involved in the agriculture culture as much or as little as they want. While the agriculture outside of town are required to be farmed, inside the town places are designed to be farmed but not mandated. The market which is attached to the school brings people together with their crops. Using this example to determine how to create a range of agriculture in the city of Detroit will result in a city with a different identity. Certain areas in Detroit will actually be redefined as rural and used for large scale farming.



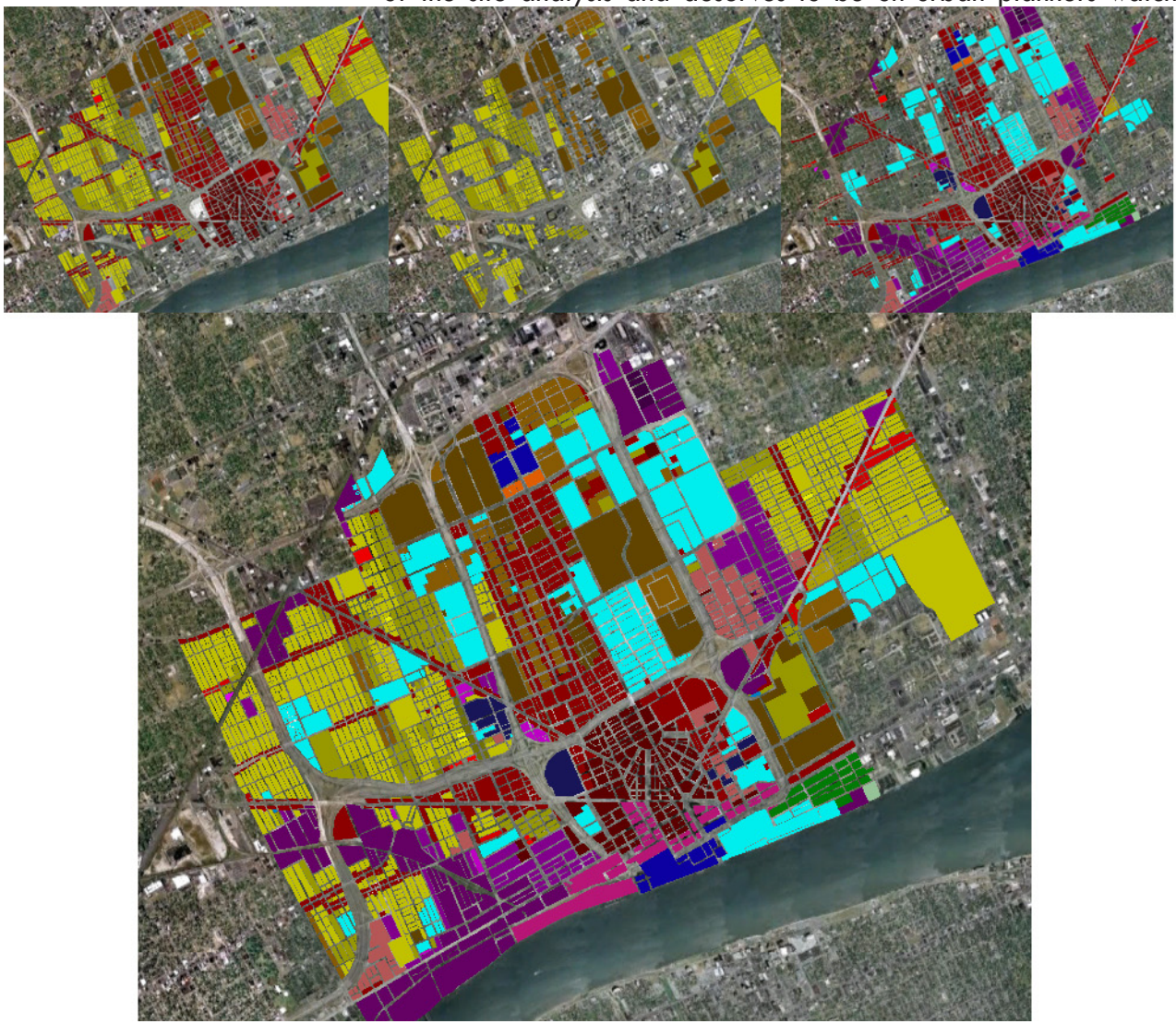


Since the criteria for choosing the site on Gratiot Avenue was the aggregate of characteristics over a large area, the first stage of site analysis was based upon satellite images. Before a final site was chosen, exploration of the two sites through the creation of figure grounds; zoning, vacancy and parking maps; and exploring building's form helped clarify the condition that streets were currently in. The history of the site's form can be seen, not only in old maps, but also in the layers of development and destruction. Gratiot Avenue can be seen as having both intensely urban aspects as well as suburban, sometimes within a single building. Site visits later let me experience the site as a pedestrian and gave a more personal view to what I was witnessing from the skies.

G O O G L E

Much of the analysis from the skies was done through an exploration of a Geographic Information System (GIS). Google Earth was chosen to map out the information; collecting all the information from the site into a single place, where layers of detail could be compared with one another. A positive aspect of working with Google Earth is its ubiquity. Everyone has access to this program and the possibilities of being able to share massive amounts of information within small packages at little or no cost is underestimated. Much of the information collected had to be picked painstakingly out of primitive black and white maps with symbols and abbreviations; converting them into easily distinguishable color maps. On the other hand, resources that were easy to read

were equally difficult to translate into a single source. This was due to the fact that several sources were hardcopies and expensive. Most of the information displayable in a form of a map could be collapsed down to a few files and given away for free on the internet; allowing for democratic access to information and ease of converting. Google Earth is, however, still an immature program. It's set up as a program lacking focus in any one field and lags behind in its ability to display and control data as a result. Nonetheless, it was an interesting part of the site analysis and deserves to be on urban planners watch list.



NEAR SITE

To the southwest of the site lies Eastern Market. Since its opening in 1981 it has brought people from the city and suburbs to buy fresh produce on Saturdays. Around 26,000 people come to the market each week bringing development to the market area, which has periodically been receiving improvements including radiant heating in one of the sheds. The market was one of the main reasons the site will focus on agriculture. Through the interaction of the market and the site, citizens will have better access to food and knowledge about how to grow their own. (Eastern)

The Heidelberg Project is located northeast of the site and is an inspiring look at the downfalls of Detroit as well as ways to bring it back. Started in 1986 by Tyree Guyton, it stands, despite past efforts of the city, as a beautiful and sometimes disturbing reminder of the blight of Detroit. Aimed to bring people to the area and create a community, the site is open to anyone and receives over 275,000 visitors a year. While this site will not affect my process, in the first semester I did note it as a place that should be preserved. The site may be extended to deal with a much larger area; in this case the site could be included. (The Heidelberg Project)

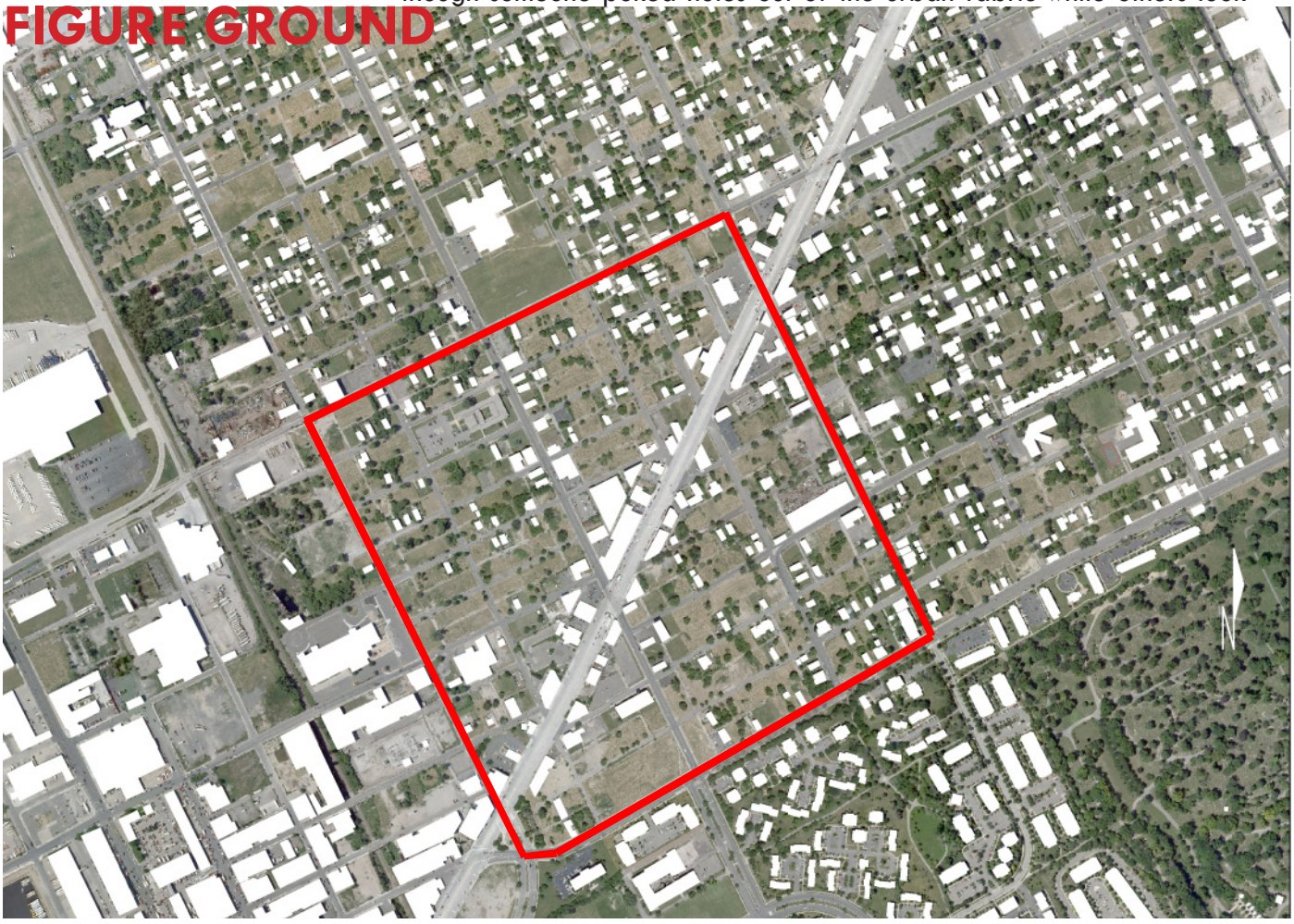
EASTERN MARKET

HEIDELBERG PROJECT

A N A L Y S I S

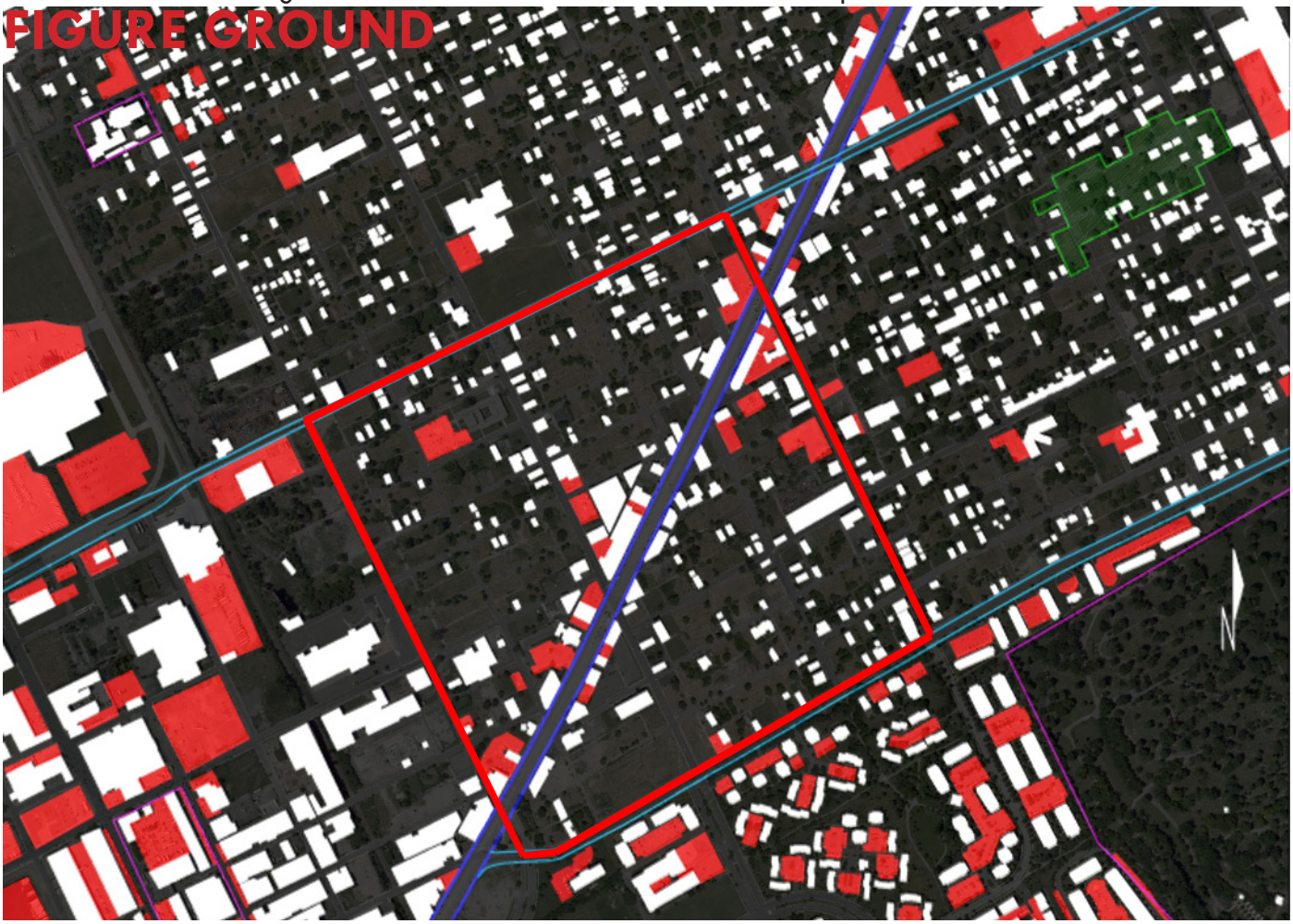
The figure ground analysis illustrates how little remains in the area and how the buildings that remained in the site fit a basic size range. Most of the buildings off of Gratiot Avenue were detached single family housing. Any commercial or industrial builds weren't much larger than four or five houses with one exception. Past the site boundaries did contain larger buildings. Most would easily fit into a dense urban fabric and the ones that couldn't are more than a ten minute walk from Gratiot Avenue. Along Gratiot itself, the development is sporadic; some areas look as though someone poked holes out of the urban fabric while others look

FIGURE GROUND

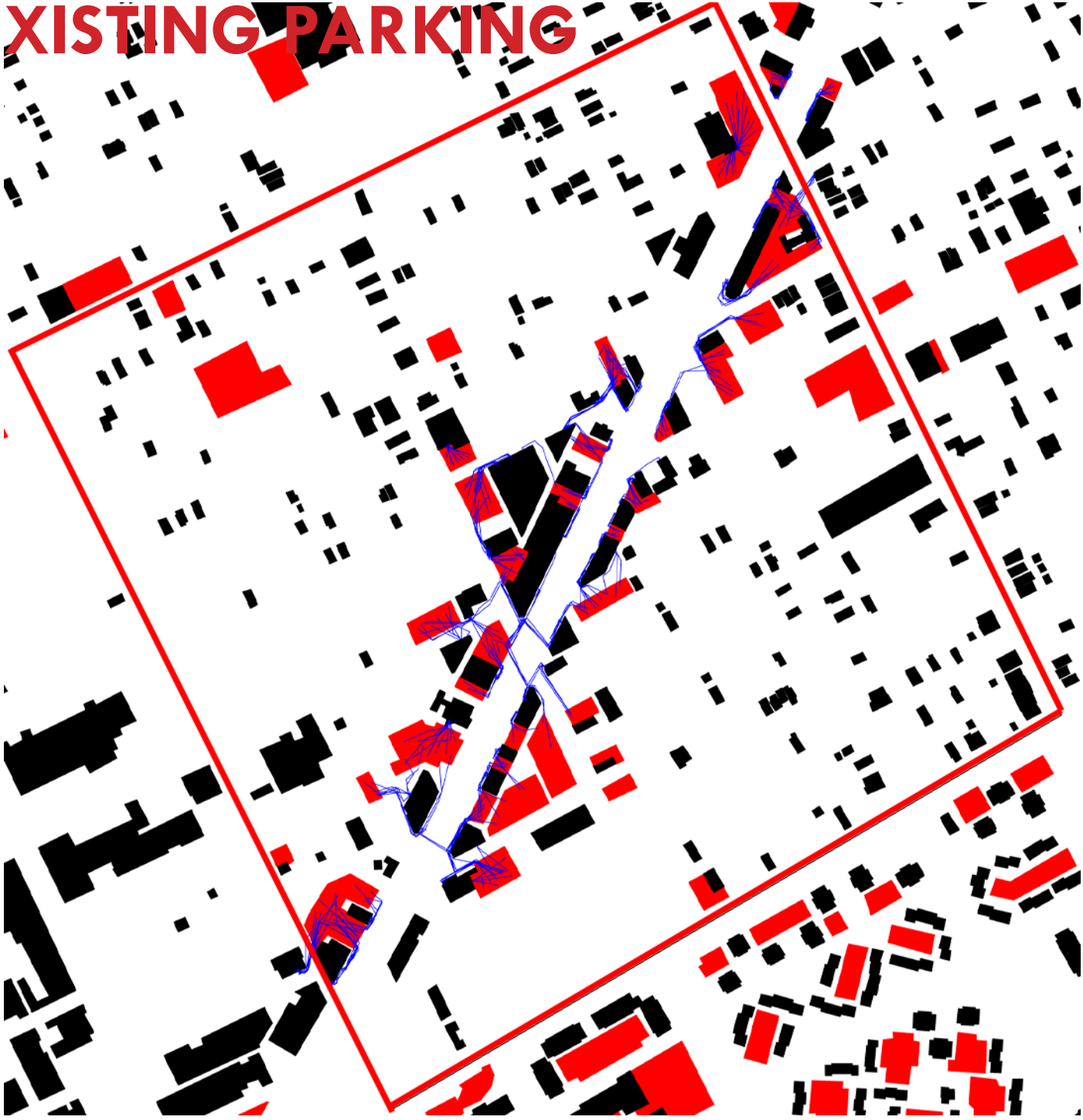


like they've placed single buildings into emptiness. The development becomes more constant as you get further away from Gratiot. In fact, past the single row of buildings most of the blocks contain one or two houses.

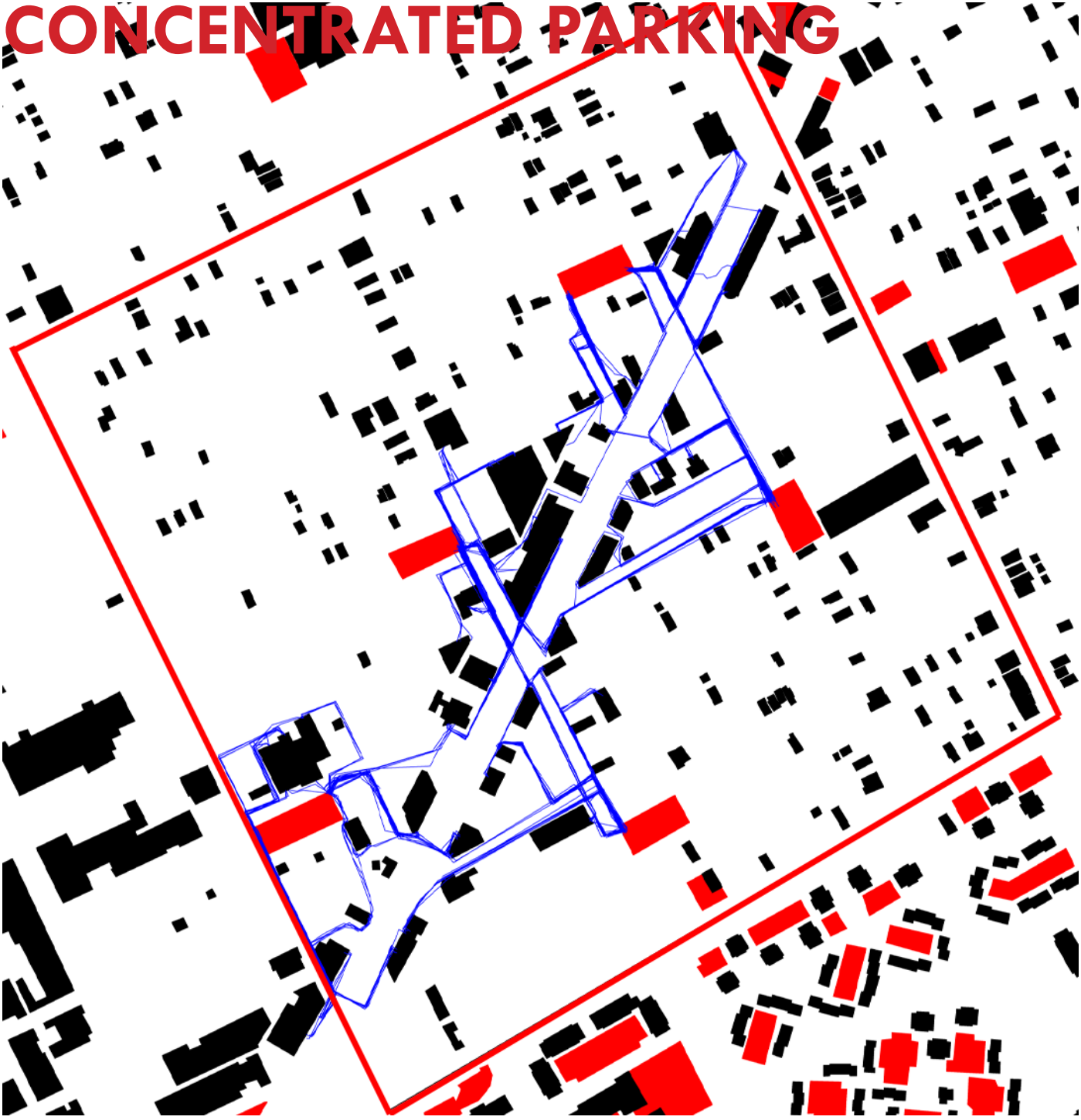
It seems that in most spots that used to be occupied by a building have now been transformed into parking. Some spots are very ambiguous; several locations on the site seem to be used partially as parking. Whether these are inadequately maintained parking lots or lawns suitable for parking isn't clear. A map shows how the abundance of parking has affected the street life of Gratiot Avenue. Assuming all the buildings are in use, which they are not, the map on the following page shows that a person rarely needs travel for longer than 15 seconds. There is no need to walk past



EXISTING PARKING



CONCENTRATED PARKING



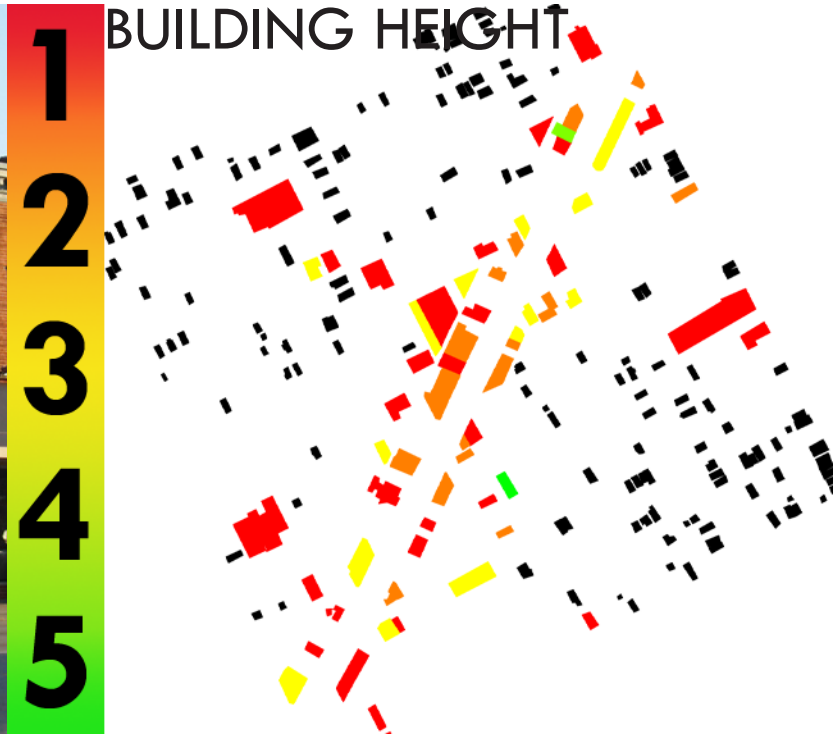
any other store front besides the one you plan to enter, excluding a few exceptions of stretches still maintaining continuous stores. As an experiment I chose to see how walking patterns would change with concentrated parking located off of Gratiot. This creates more people on the street without actually adding anyone. Each person walks a longer distance making the street safer though the addition of eyes. While Gratiot has more traffic on the concentrated model, the side streets are affected even more. Bare streets seldom traversed by foot would be flooded with people.

The buildings have a mixture of sprawl and traditional developments. Sprawl development in this case would be anything where the land used for parking outweighs the building or the building is set back from the sidewalk. Traditional developments can be considered buildings that engage the sidewalk; contain little or no parking; and can be mixed-use. There are many instances of single story building built up to the sidewalk. While these may be a bonus to pedestrians, they are very low density developments and should be considered expendable if there is an opportunity for a denser development. Two drive-thru buildings (one fast-food one fast-bank), each encouraging non-stop auto use while filling the street front with parking; thereby reducing the pedestrian

GRADY STREET & SCOTT STEET

appeal of the site. Many of the corners are inhabited with some kind of traditional buildings. The ones that aren't either have empty space, parking or a gas station. Traditional commercial developments exist in broken strips along Gratiot. The corner of Chene Street and Gratiot Avenue is the most consistent of these developments in form if not in occupancy. The businesses are mostly made up of retail or offices. There seems to be a high amount of companies focused on tax filing.

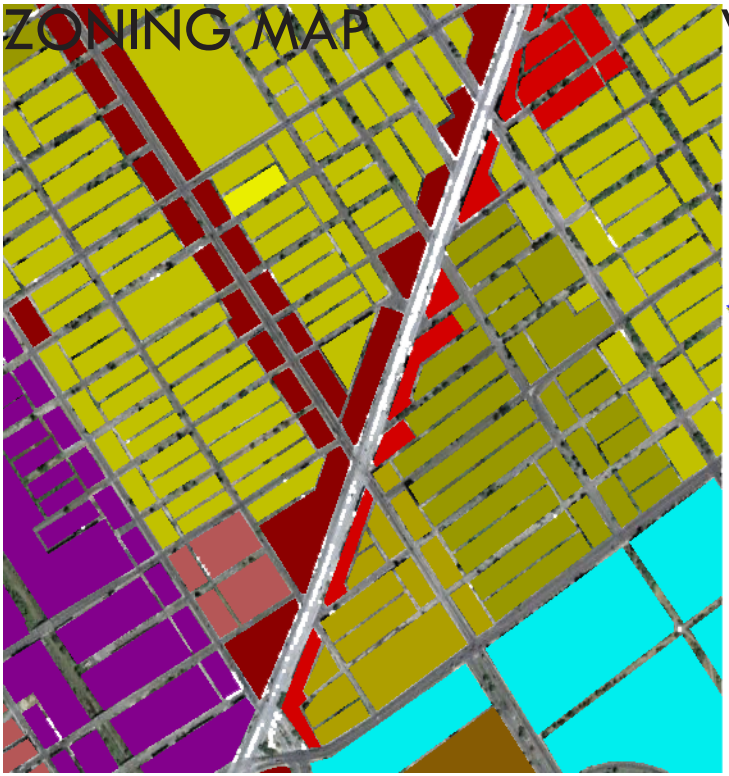
The building heights range from one to five stories. Below is a map indicating the story height of each building. The site contains only two buildings taller than three stories; each appears to be vacant. For the amount of density this project is aiming for any building under three stories on Gratiot would be a burden and therefore discarded. However, there are some two story buildings that could be saved due to their architectural details. Several of the buildings are beautifully detailed in their brick work. Excluding Gratiot, most buildings are



single family detached housing, which are shown in black and are either one or two stories. Almost every other building one block off of Gratiot Avenue is a one story building. These buildings could have easily been used for light industry or commercial in the past. The one exception to this is the five story build, indicating the site's past density.

It's important to have knowledge of the zoning of the area due to its affect of the form of the city; however the goal is to veer away from traditional zoning plans and lay out a fusion of use and form zoning. The zoning for the area is as one would expect. Gratiot is covered with a thin layer of Local Business to the south and General Business to the north. Chene Street, being the second major street on the site is also General Business. The rest of the site is residential; either Two Family or Low Density Residential. Southwest of the site lies General Industrial and while not necessarily pretty, can fit into a dense mixed-use

ZONING MAP



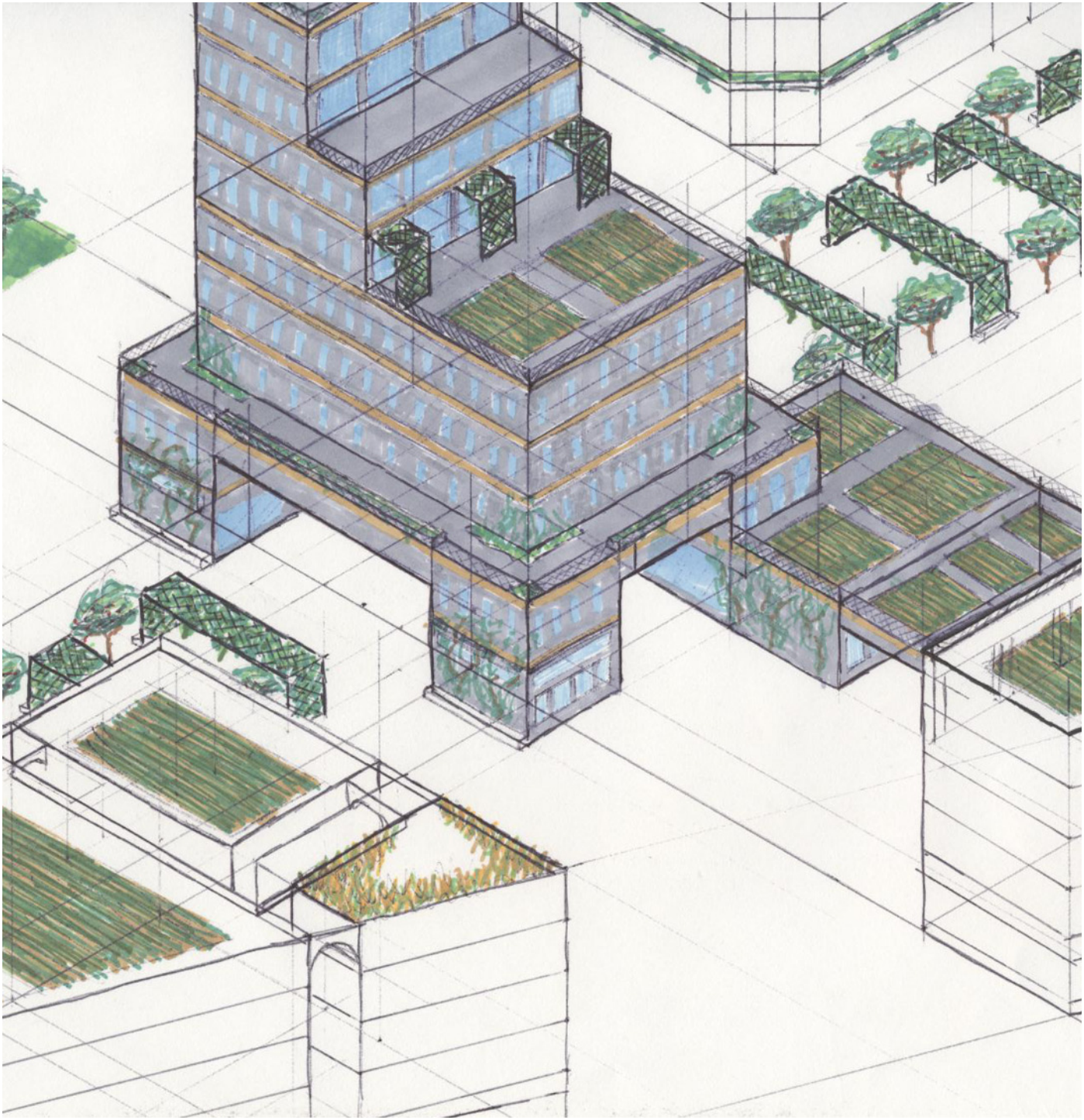
VACANCY MAP

fabric. The Southeast border is next to planned development, which has taken the form of sprawl apartments. Residential is the primary zoning north of the site until you run into the industrial that built up around the rail road that ran between Beaufait Street and Bellevue Street.

It was mentioned earlier that driving or walking along a street in Detroit and not knowing the emptiness behind the first layer of buildings. That street was Gratiot Avenue. Beyond the first layer of buildings lies very little. Even on a day when Eastern Market was open, there were very few people on the streets. With lack of people comes the degradation of the site. Graffiti covers many of the buildings as well as random objects on the street. The "stop snitching sign" is found on corner of Chene Street and Gratiot Avenue. Trash has also built up along side the streets and between buildings. Buildings lie in different states of decay and it's easy to determine a rough time frame for its vacancy. Does it have windows or is it boarded up? How much Graffiti is on the exterior? How green is the parking lot? This is a very visual form of decay. It's unlikely much new development will occur here with this amount of negative advertising. Buildings aren't the only things falling apart. The road system is getting hit hard with the forces of

CHENE STREET & GRATIOT AVENUE

nature. Alleys are especially vulnerable; many places in Detroit have alleyways completely grown over by brush. North of the site is a profound reclaiming of the built environment. Four empty blocks near E. Hancock Street and Mitchell Street are completely empty, and because of that the roads in-between them have returned to grass and shrubs.



Each of the principals explored in the first semester have many connections with every other principals. This interconnection has created a web of thoughts within my brain that is hard to get out onto paper and into a linear form. One idea influences another and can cause me to backtrack or modify previous ideas and investigations. Sometimes nothing changes on drawings themselves, just what I took away from them. Because of this, I chose to write these into topics and try to relate them as much as possible.

COMMUNITY

The idea of creating community came from the desire to create a large institutional anchor that did not alienate its neighbors. The institution would be designed to fit into the community not only from its form but through its practices. The idea was to then take the rolls that anchor would play in the community through its practices and translate that into forms which could help achieve those goals. This creates a design cycle which intensifies the agricultural institutions place in the community. The creation of community is the underlying topic for the first semester. Sometimes the topic was dealt with indirectly, with later topics like, transects and agriculture. However, other explorations were much more direct about how they would spawn community.

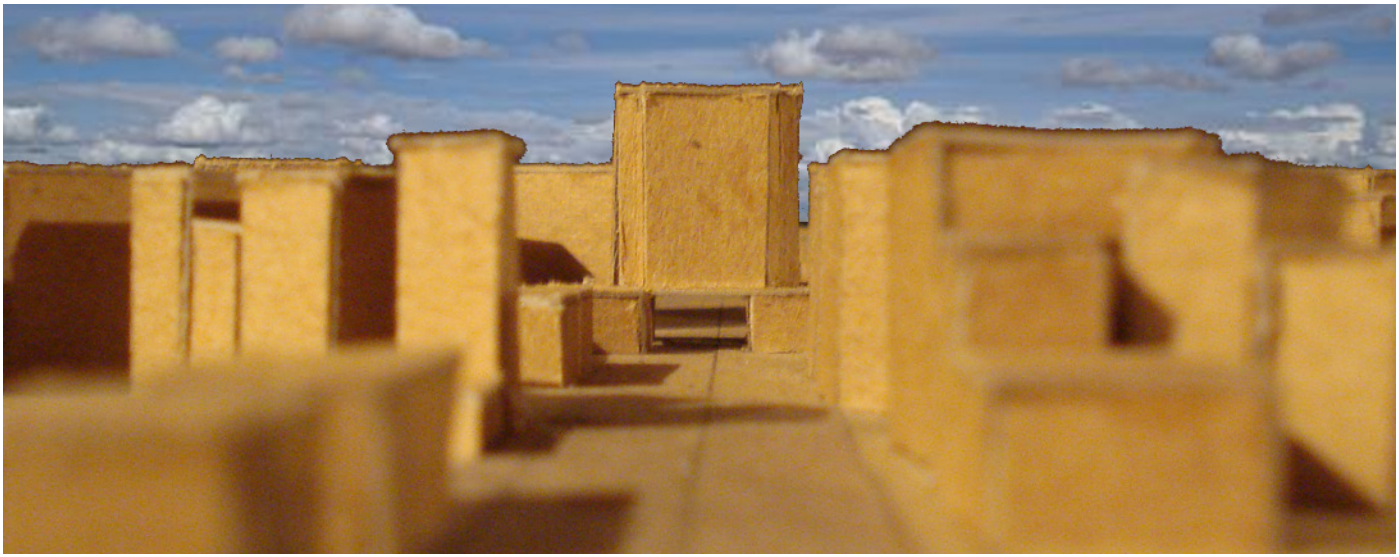
One key step toward community had to deal with the institutions main building, its face to the world. At first, I didn't think of the agricultural institute as having a main building or a center. Of course, it would have

its offices and places were management would work, but that is not the center of the institute. The Fisher building is not the center of the campus of University of Detroit Mercy. It is clear to everyone that spends a half hour on campus that the center of campus is the student center; a place where people interact with each other in an institutional center. Of course, the people using the student center are almost exclusively of the institute, which makes it different from this project. The institute's center came into play when I explored possibilities for the mass transit system.

The transit system was intended to stop infrequently, promoting the densification of the areas within walking distance. This meant that the mass transit system would be an important place within the community. The transit would run down Gratiot in some manner, either down the center or along the sides and would stop at the center of the development. Because of the transits importance, it seemed that a normal stop would be inadequate. A stand alone system, made of a small covered area with signs stating its existence would not communicate the importance the transit has. After all, if one of my goals is environmental sustainability and one component of that is the reduction in car use, then mass transit needs to be celebrated. I began thinking of images of the Michigan Central Station and how it clearly communicates the importance of the rail road; why else would such a beautiful structure be constructed. Because of this, it became clear that the mass transit station be connected to the community though

a building, an important building. Finally, since a major reason that this development would exist is because of its reliance on and supportive roll to the Urban Agriculture Institute, it is the only logical option. This would link the people of the community with the institute through their travel.

At the same time, I was reading Jane Jacobs' The Death and Life of Great American Cities, where she mentions that need for visual interruption. In the chapter "Visual Order: Its Limitations and Possibilities" she describes reasons that visual terminations are important to anchor people into their settings and stopping endless repetition of urban details. It also is important for emphasizing places (495-510). These ideas made me think of Detroit. Looking down Gratiot Avenue towards downtown one will notice how the irregular pattern of Detroit's streets quickly relinquishes the site lines to towers. However, turning around and looking towards the suburbs, one will see an endless street, suggesting that to travel down it would lead one to nothingness. There are no notable areas visible from a distance. This dilemma combined with the mass transit's need to be anchored in a building lead me to the idea that the station could become the visual termination for Gratiot. Rather than moving the mass transit to the side, the building would be placed on the road, giving it even more importance. How the building would be placed in the road's path is explored later, what is important is the institution had become a means to provide visual termination.

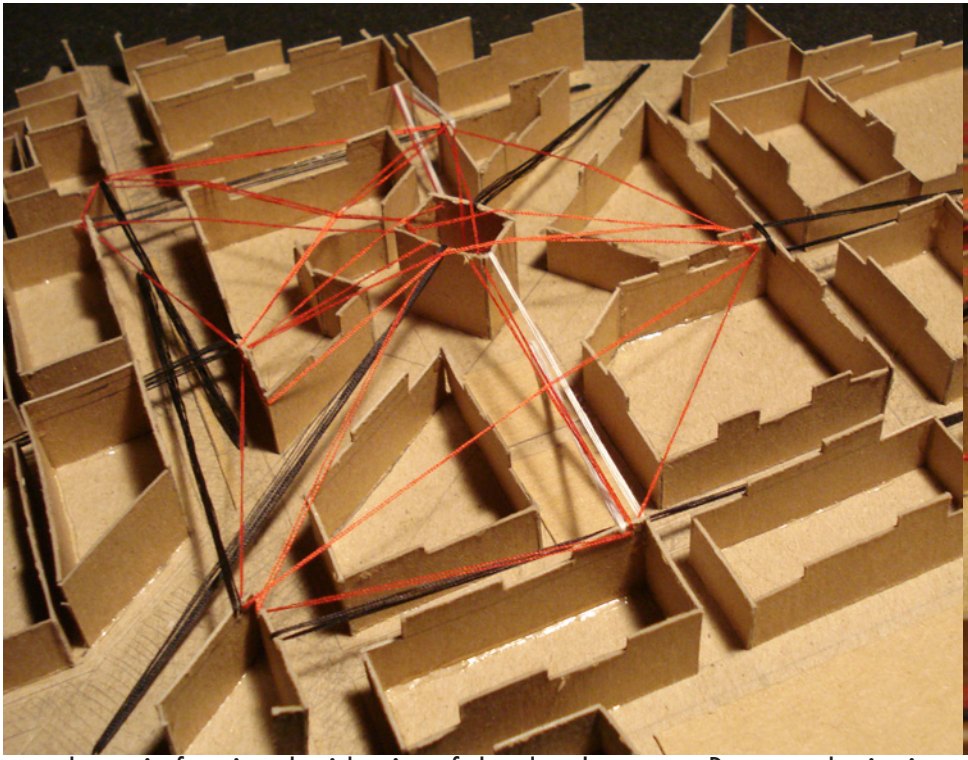


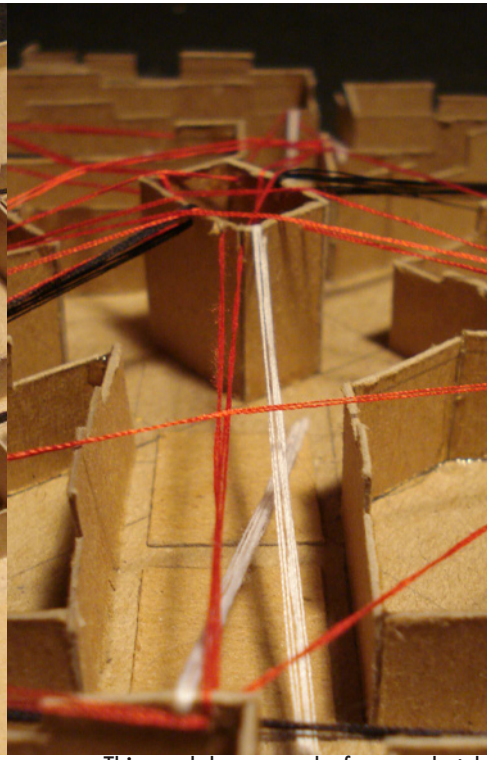
Lots owned by the institute, shown in red would be separated from each other to minimize the institute's presence. Keeping the ground level free for as much private retail and service will help create street life. The institute's lots stripped with red would need to rent out the ground level in order to nullify the affects of multiple lots touching.

Another important part of integrating the institute came when I started thinking about the majority of the institute's buildings. The ideas of using an institute's building for the station came along about the same time as the idea to break up the institute's remaining buildings into small chunks. The University of Washington Tacoma taught me that a campus could be mixed use; however, this did not go far enough. Early in the process it became apparent that the campus should be done away with altogether. I stopped using the word "campus" and instead used the word "institution." The idea would be that the institute would not only inhabit a small portion of the buildings; it also would not own most the land. Rather than owning large chunks of land, the campus would own normal sized plots like every other business. Another restriction I put on the institute is that it could only own so much land on each block and only so much of it could be touching. These rules mean that the campus would be mixed into the everyday life of the community.

While these policies would have a beneficial impact on the integration of the institute, it could also dissolve the institute into the background; reducing its importance and interaction with the community. If the institute's buildings appeared the same as every other commercial building how would it interact with the community? How would they know that the institute cared about their well being? The institute would have to fit sparingly into the community without disappearing. It had to be very visual. A precedent set earlier in the process was used to craft a solution to this problem. An Urban Agriculture Institute's building was used to create a visual termination for the transit stop. I realized that this could be used, on a smaller scale, to create visual importance for the rest of the institute's buildings. The street pattern to the site creates many spots where terminal views are possible. A model was used to discover where these spots could be in a sketch design. This created a situation were even though the institutes building are few in number, they dominate every terminal view on the site. Because the building would need to be recognizable as institute buildings, this created a great opportunity to craft an identity or branding for the site.

The visual nature of the institutional buildings would be the dominant

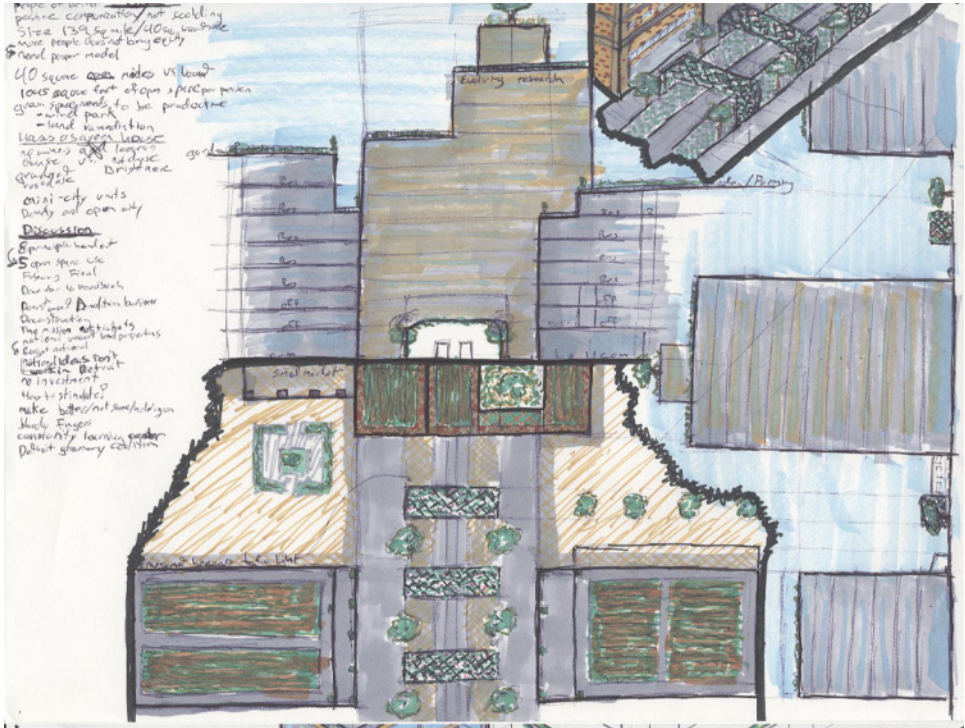


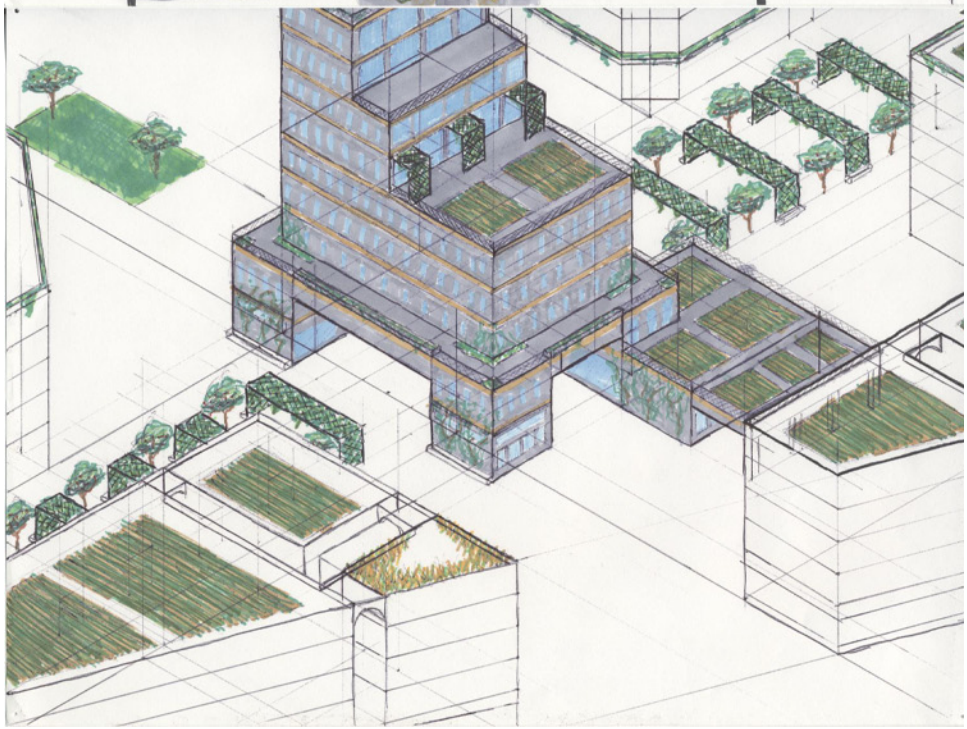


This model was made from a sketch design in order to explore the possibilities of terminating locations. Black string represents views from automobile corridors while white string is dedicated to pedestrian paths. The red string explores the connection between buildings that the black and white string determined to be in visual terminating locations.

player in forming the identity of the development. Because the institute focuses on agriculture, my first idea was to mimic the architectural DNA of the farm house and barn. I even thought about using the Southlands precedent for its architecture as well as its agriculture. However it was eventually decided to go in a different direction. I had already spent a great deal of time thinking of the transect plan for the area. The farm house and barn belong in the rural transect, which the institute is solidly not located. If I was going to use agriculture to determine the architectural style than it should follow the transect; it needed to be an urban core agriculture. The urban form of agriculture is the balcony; growing on the building. Taking the idea of growing on the building to the next level brought me to the idea of living walls. Exteriors covered in living plants. This has been done many times and there are companies focused on making this easy and efficient. Rather than an average vine these walls would be made of edible plants. Berriers, grapes, green beans would grow on the walls while bushy plants like tomatoes and peppers could be placed in planters. On the facility's roof one could grow corn or potatoes. The building would become

Exploring the station's form as well as the visual vocabulary it could use. The second drawing shows how agriculture could be integrated into the neighborhood.





Fruit grows up the site of an institute building while corn grows near the edge of the roof to maximize the visual affect. Each terminal view would be dedicated to containing buildings like these.

identifiable through its purpose to grow food in urban environments. Although I dealt with the community aspect of the project indirectly in other topics, there is one last topic directly engaging it. The previous method created community through form but how would the institute interact with the community through its program? The institute's center would become the cultural hub of the urban farming community. It could hold classes after hours for kids and adults; teaching them how to grow their own food. A museum could be located in the station focusing on urban growing. The building could also contain the local garden supply store. Each day people would walk to the center of town to gather in these facilities and learn, buy or just socialize over the art of gardening. However these all deal with the institute reaching out to the people rather than the people reaching out to the institute.

One of the transect plans called for a rural section to be placed near the center of the development. It would act similar to New York's Central Park, if it were dedicated to growing crops. It was originally envisioned to be made of community gardens. However, it would be more stimulating to have it be institutional research fields that were maintained by the community. These fields would be small, similar to one that could be found in a backyard and would be dedicated to

creating methods of growing food for ones family. After a few classes, almost anyone would be able to work in these plots by collecting basic data or simply weeding. Through the act of maintaining the land each citizen that takes part would become a junior researcher; helping to further the cause of sustainable agriculture. After a method was determined successful, it could move to the next stage. This would involve using private peoples land. An example deal could be we'll set up the system in your yard as long as you maintain the garden. The researchers get the data from the plot and the citizen keeps all the food.

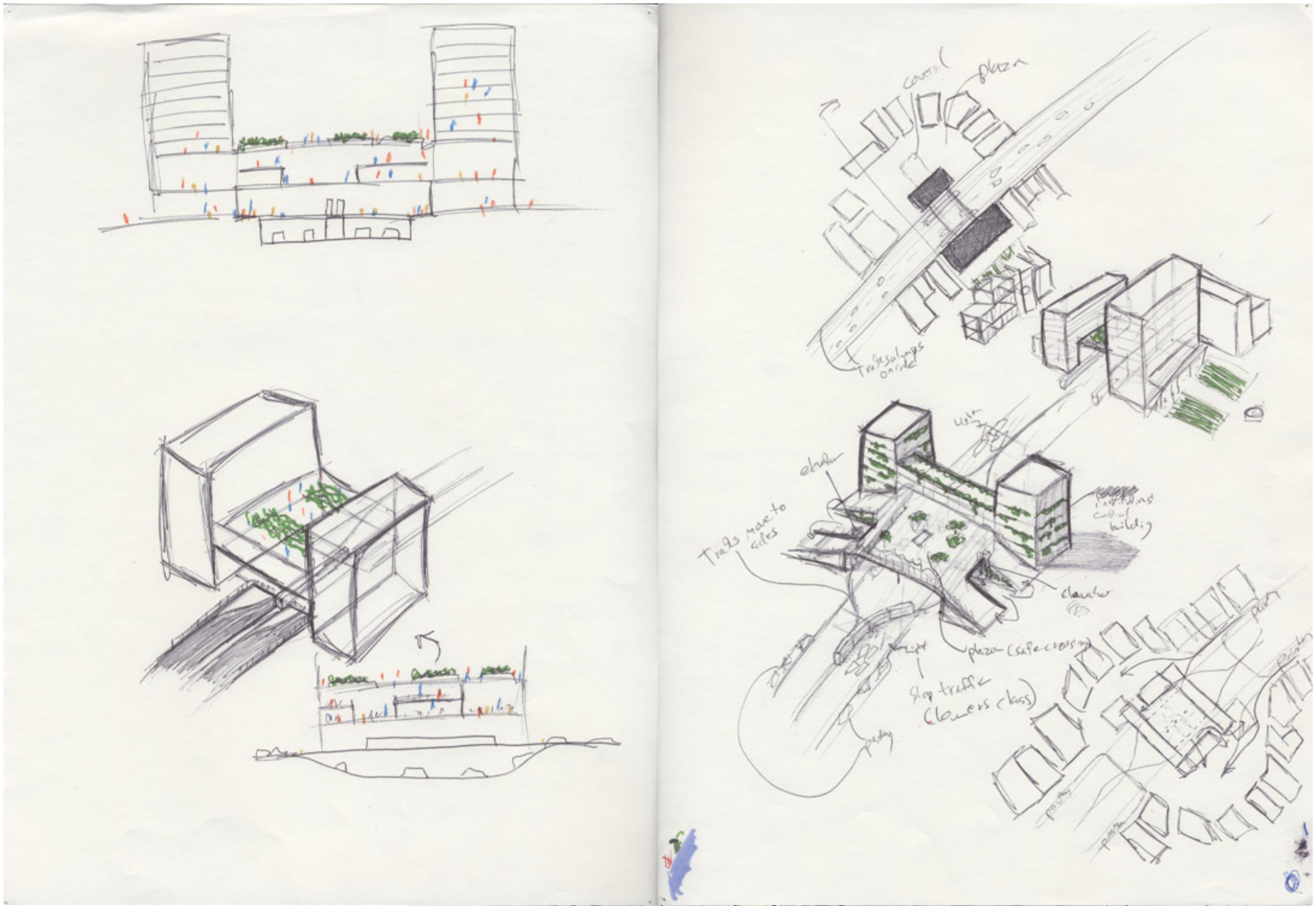
This was the extent of the direct community creation that I got into the first semester. Once again, this section pulled decision from other sections to get to other points and it happen the other way around as well. The entire process became a web of ideas, replenishing the strength of each new idea.

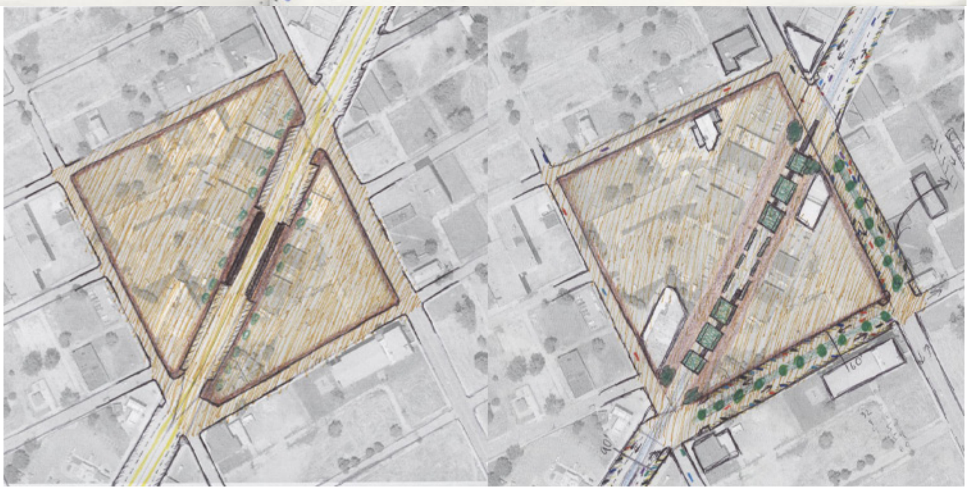
STATION FORM

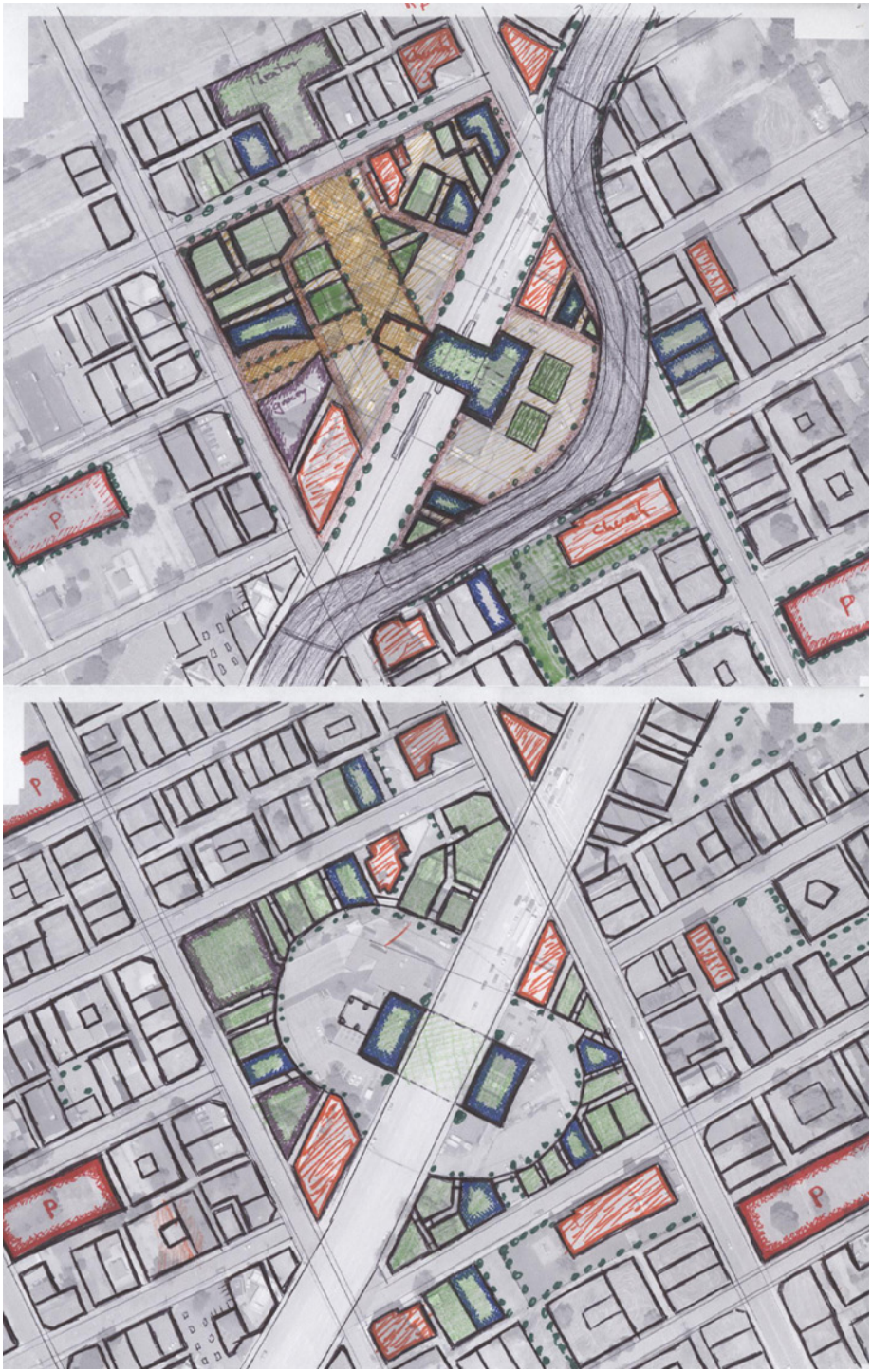
The beginnings of the station's form lies in the decision around the visual termination from the community section. It was determined that the station should be located directly in the path of Gratiot; creating a destination. There were several ways of achieving this goal. Initial sketches were drawn depicting changing the shape of Gratiot Avenue. The street would bend leaving open space were it once laid. The transit however would keep going straight in to the new block and under the station. Another idea that was explored was leaving the road alone while placing the buildings over the road. Two towers would connect over the road creating shelter from the weather the same as the road alteration did while letting the traffic move freely. Another idea involved sinking the road down under a plaza covered by the building. The transit would

stay at the same level allowing pedestrians to exit and enter freely.

One arrangement was created that altered Gratiot in further detail to understand the possibilities of such a setup. The same was done with Gratiot unchanged. I chose to go with the alteration plan for further exploration. The reasons for doing this decision are threefold. First, it reverses the class of travel in the city. In Detroit the current ranking starts off with the automobile at the top with the pedestrian and mass transit tied for last. A configuration where pedestrians and mass transit can maintain a straight path while the auto must turn three times puts it at the bottom of the list. The ranking that this plan would put in place would be the pedestrian first with mass transit close behind


plaza
Tracks move to sides
plaza (safe crossing)





Top drawing shows alteration of Gratiot while the bottom shows the road remaining the same with the building covering the road. Original plan to alter Gratiot contained a smooth shape; later plans created another intersection instead of curving the road.

and the automobile in the rear. Once again, this fits well with the social, economic and environmental sustainability mentioned earlier.

While this was kept through several following stages it was eventually dropped because of two reasons. First, I had enough speed calming techniques integrated into the design to slow traffic and make public transit more efficient. Second, a single instance of alteration of a major road would not be an affective tool to discourage auto use. It would merely, be a pain in the neck. The plan was altered later to allow the building to go over Gratiot without diverting automotive traffic.

TRANSECT ZONING

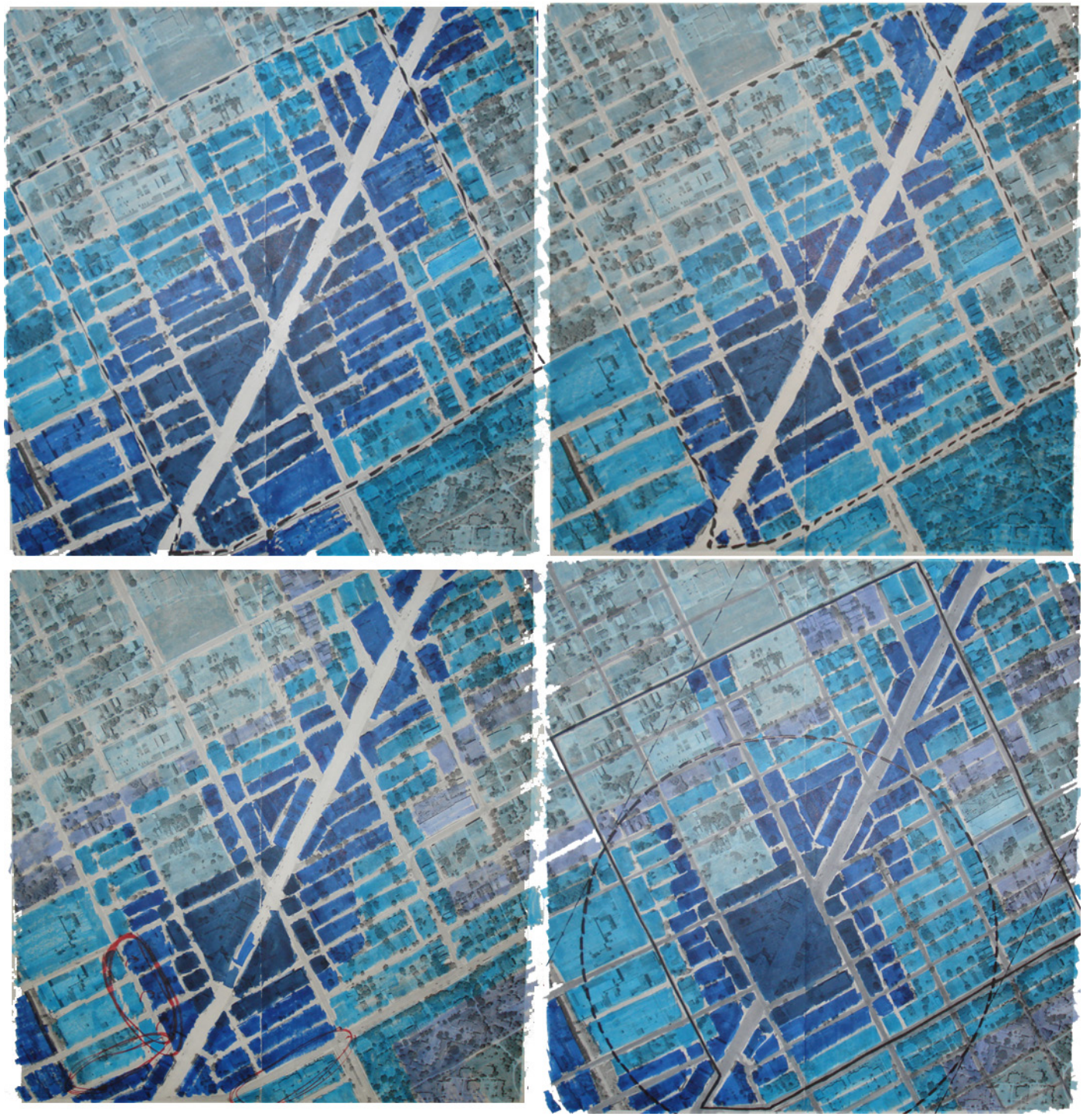
As initial ideas about how this development should be constructed at various scales, it became apparent that a comprehensive system was needed to create the amount of control needed to allow a free market to design without creating stacks and stacks of different sets of maps. For instance, preliminary sketches of height limits and mixed-use zones lead me to ask what else I could map out. Soon, it became too complicated to describe all of the different ideas and that sphere of the project began to lag behind.

It was then that I was introduced to the idea of the "transect." Transect zoning is perhaps the most potent type of form-based design. Transects in the planning profession are used to code for a variety of the building's shapes depending on what transect zone it is located. Just a few maps would be able to handle the amount of detail needed to ensure a communities success in the future. Distant construction unforeseen by the planner and thus uncontrollable could be controlled byu the transect. Rather than creating set backs, build to, and right-of-way lines on every inch of the development, one could simple distinguish an area as T4 and let the details be handled by a companion document that the characteristics of the typical T4. The detail can then become abundant in the coding of the typical area; setting standards for suitable lighting fixtures, parking types, lane widths, vegetation and the buildings form. Controlling form so precisely makes the need to force mixed-use areas unnecessary. The ability for a building to be mix-use is dependant upon

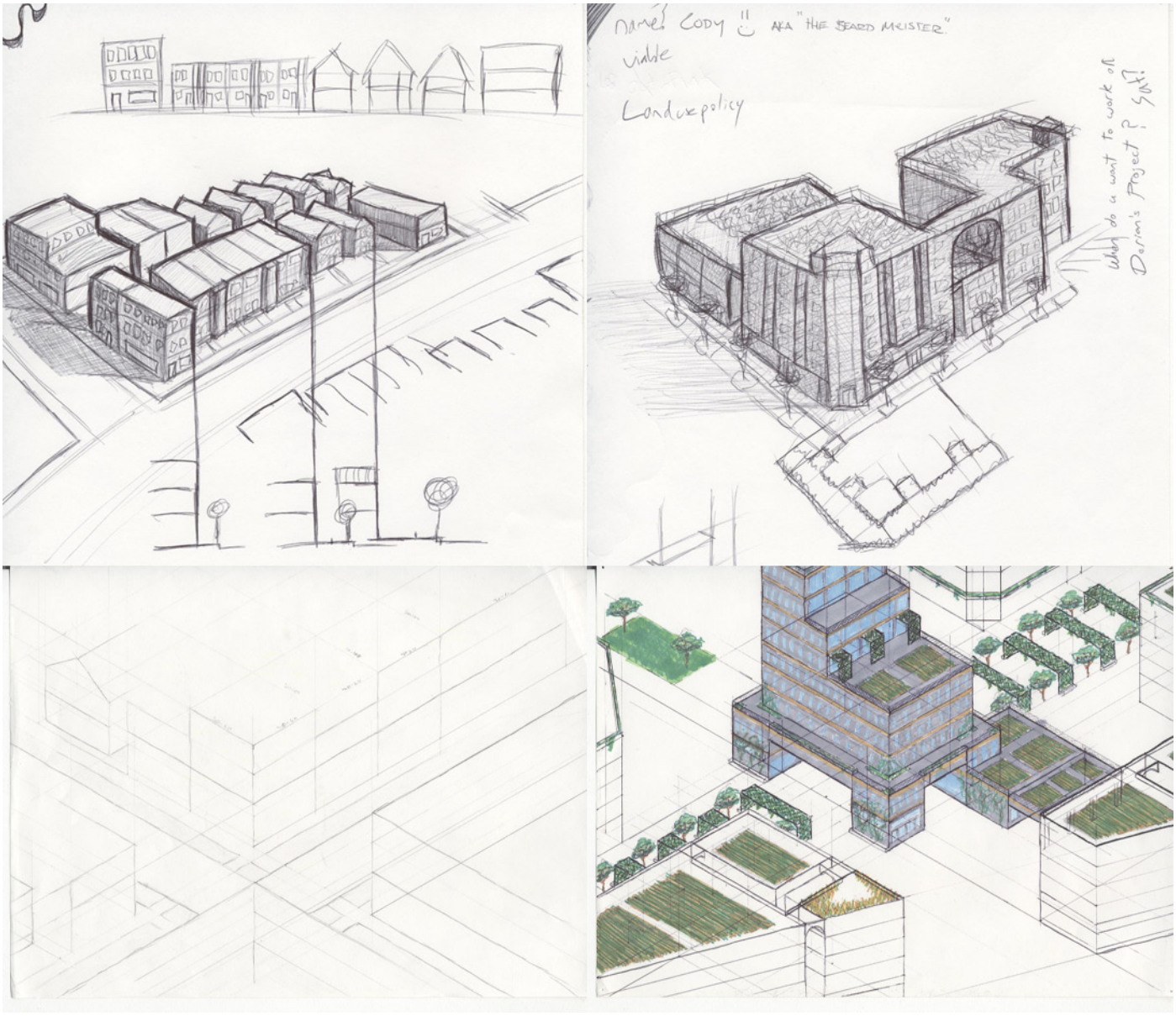
its form and wouldn't need to be required in a community that is controlled by form-based zoning because it simply makes too much economic sense.

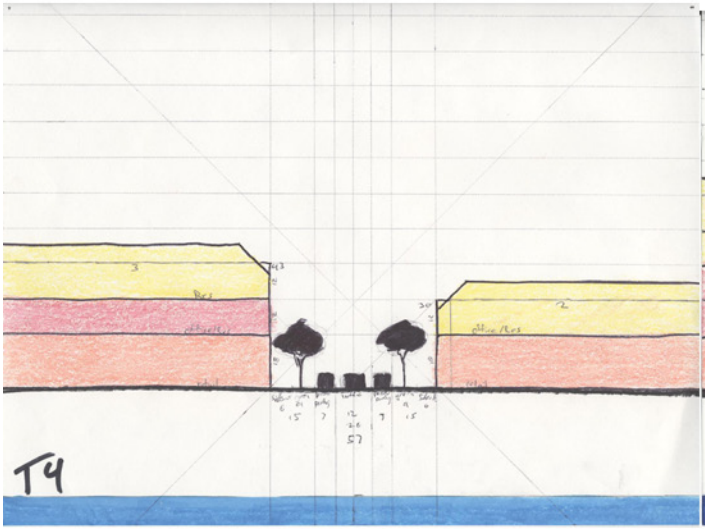
Transects can be divided into 6 distinct zones; ranging from rural to urban core. Natural (T1) is land dedicated to nature; almost no development is allowed here. Rural (T2) consists of land use for large scale farming as well as unassigned open space. Suburban (T3) is the buffer between the rural zones and the urban zones. Suburban areas if done right and at the correct scale can be beneficial. However, they need to exist attached to an urban center and within a reasonable distance from its center. Suburban development will always be the least efficient but it should always be the least numerous as well. General urban (T4) contains mostly residential with small commercial developments, often single building, located in key locations for the residents' convenience. This zone is where mixed-use buildings start to be seen. The scale of the houses and retail should remain small. Urban center (T5) is the main street area of the cities. Almost every building in this region will be mixed-use. Housing will become denser while the building height limit is raised a few stories of general urban. Urban Core (T6) is the densest and most urban area. This is where the action is; people come here to be among people. This area is almost entirely man-made. Every instance of vegetation is controlled. While this section contains the least natural diversity it contains the highest human diversity. It is the center of culture, commerce and politics. The details of the transect codes change from place to place a "general urban" zone in Manhattan, New York is going to be very different than one in a small town. The prosperities of zone can be shifted to fit the scale of the city it is being used for. Some cities may not need an urban core zone while others may not need a suburban zone.

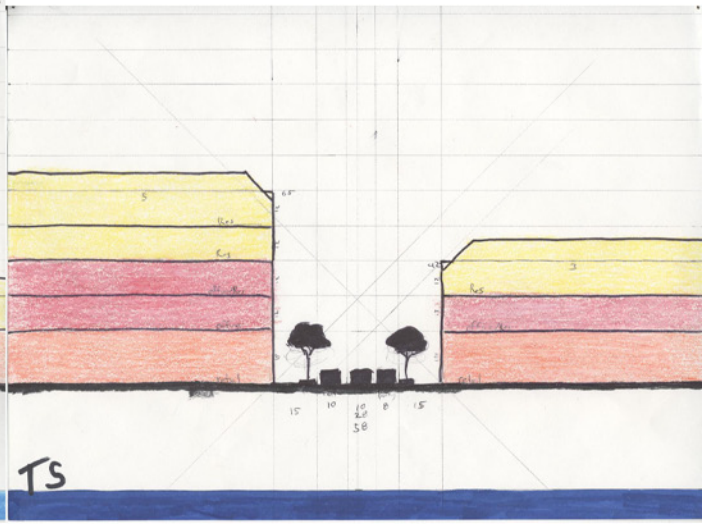
Once becoming familiar with the intricacies of transect zoning, plans were made of the site. As each progressive plan was laid out it became clear that my original assessment of the scale of this project was too large. A new development wouldn't be able to support enough buildings in order to fill in several different zones. The first plan looks like what this site could develope into in a hundred years down the line. The latest plan is centered on an urban core, which is the hub of the transit stop and the institute. Urban Center zones surround the core and then elongate



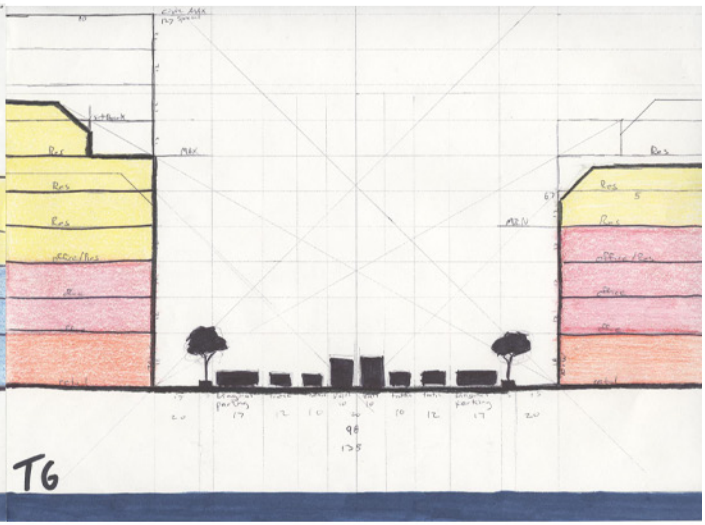
onto Gratiot Avenue. Originally, the urban center zone on Gratiot was much thicker than it is now. However, since the project is focused on dense cities connected on a linear path rather than a linear city it became necessary to fade faster into general urban. The rest of the plane radiates outward from there into general urban, suburban and finally rural. Directly adjacent to the urban core section is a portion of rural.




T4


T5

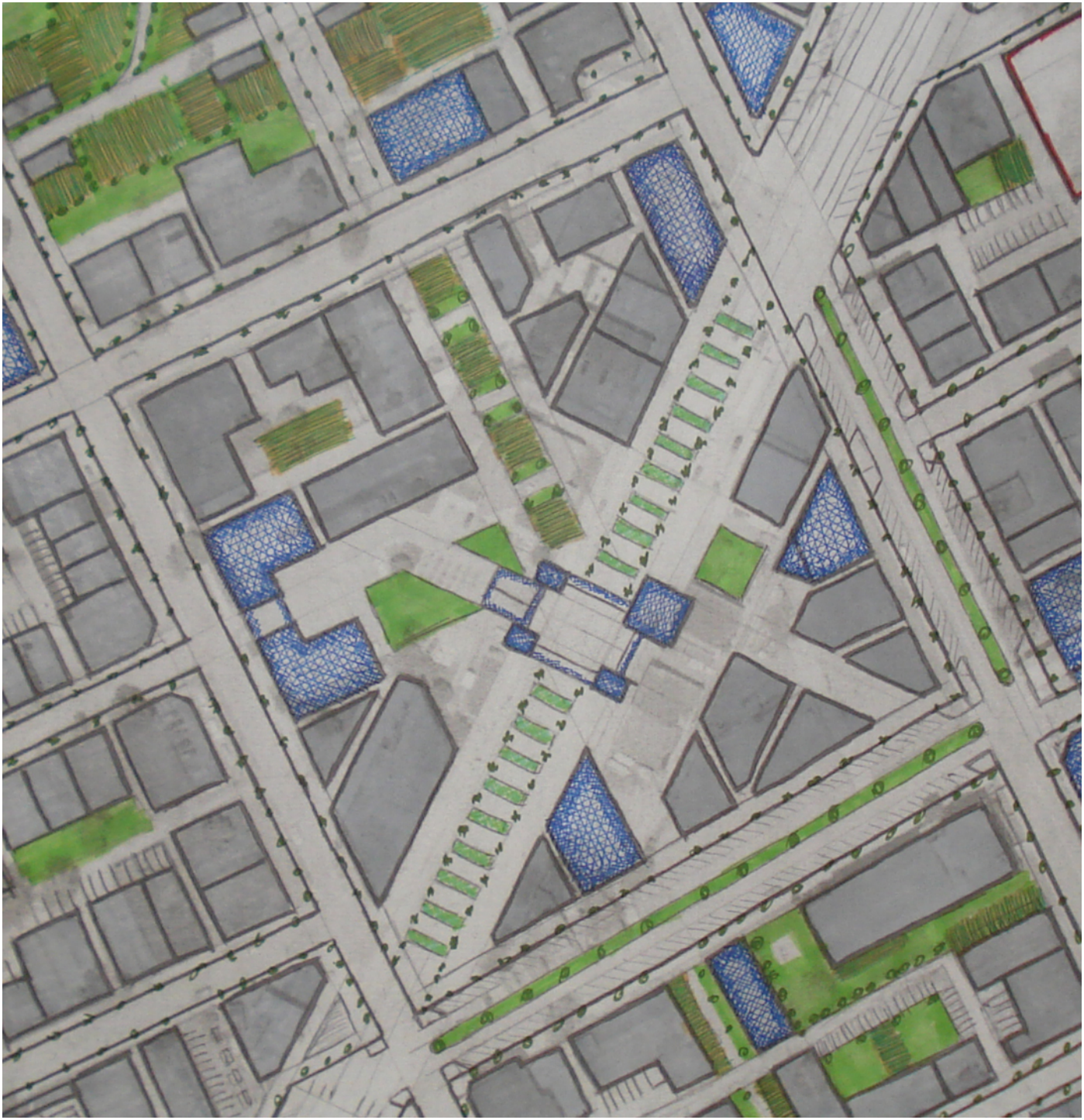

T6


T6

Usually a drastic jump is unhealthy towards the community, however, because this is going to be productive landscape through community or research gardens the juxtaposition becomes a special characteristic that sets the site up for an intriguing visual experience. Another unique aspect is a thin arm running along Chene Street that juts out into the rural land. This can be seen as a pier into a body of water. It will be used as the institute's jumping off point for larger agricultural experiments.

Drawings of zones were also being created along side the maps. Street sections for each zone were created and axonometric drawing put these ideas into a three dimensional context. These clarified how this community would look and feel in each zone.

In the second semester the use of the transect became less standardized. The interesting aspect of the project was how the use of the transect needed to change due it the unusual form found in Detroit.



The first plan created from the explorations of the community, station and transect was used to place these ideas within a framework of real buildings and streets. The final transect plan was used to create a base for the design. It is important to keep in mind that while a figure ground was created containing the shape of every building inside the area, an actual physical product may come out very different. Only the institutional building and several buildings in the urban core would need to be intensively designed. The transect plan would control the shape of the remaining building, allowing the free market to determine the quirky details that form character. This design is meant to be a long term plan. It was traced to create intermediate figure grounds and then analyzed to see how it would create paths and connections between the park and the institutional buildings as well as the ability to create a diversity of housing within a small area.

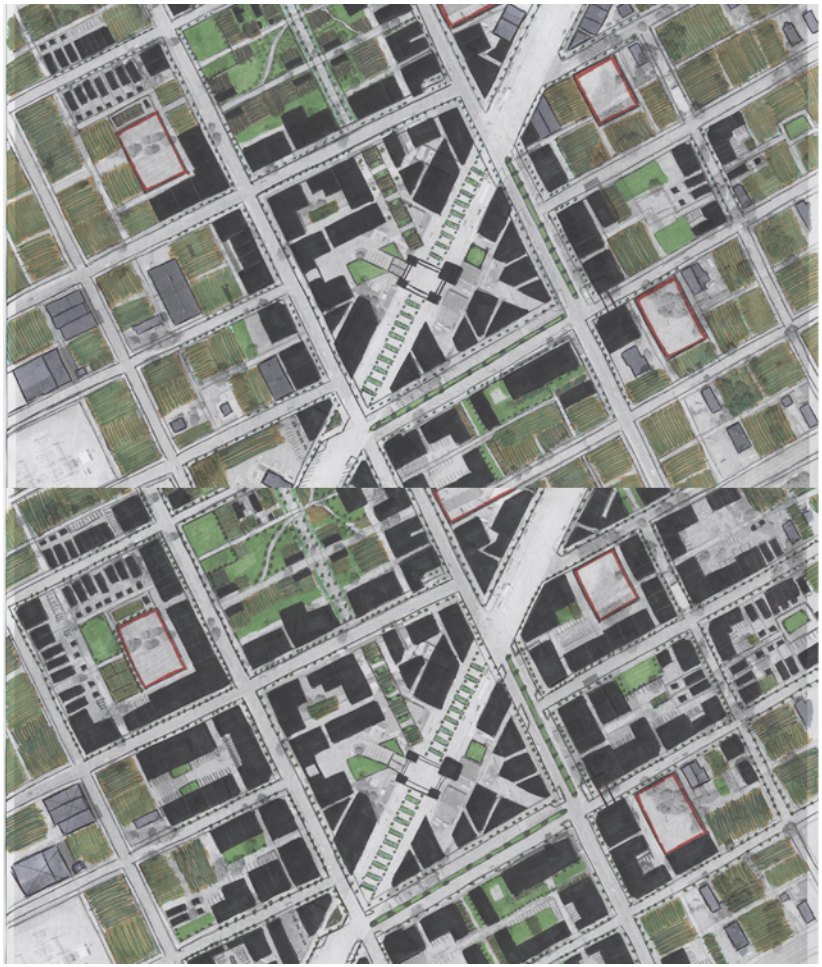
The blue buildings on the master plan would be the institutional buildings that had their location identified by the site line study done earlier. Imitating the form of the station, several of the institute's buildings bridge over streets or pathways creating a visual termination in order to distinguishe them from the standard buildings. As the project has matured and the community gardens changed to research gardens, it became apparent that the research institute was not connected enough with the gardens.

Several speed cutting tactics were used on Gratiot to give preference to public transit as well as pedestrians. Automotive speed would be reduced do to the public transit running down the middle of Gratiot, fewer lanes

and diagonal parking which allows for denser parking and reduces the speed of traffic to a greater extent. Gratiot was also modified to move around the central block rather than cutting through it. The remaining area would contain public transit, which is signified by repeating green archways. These would provide a visual queue for pedestrians, letting them know that they are entering an area of public transit.

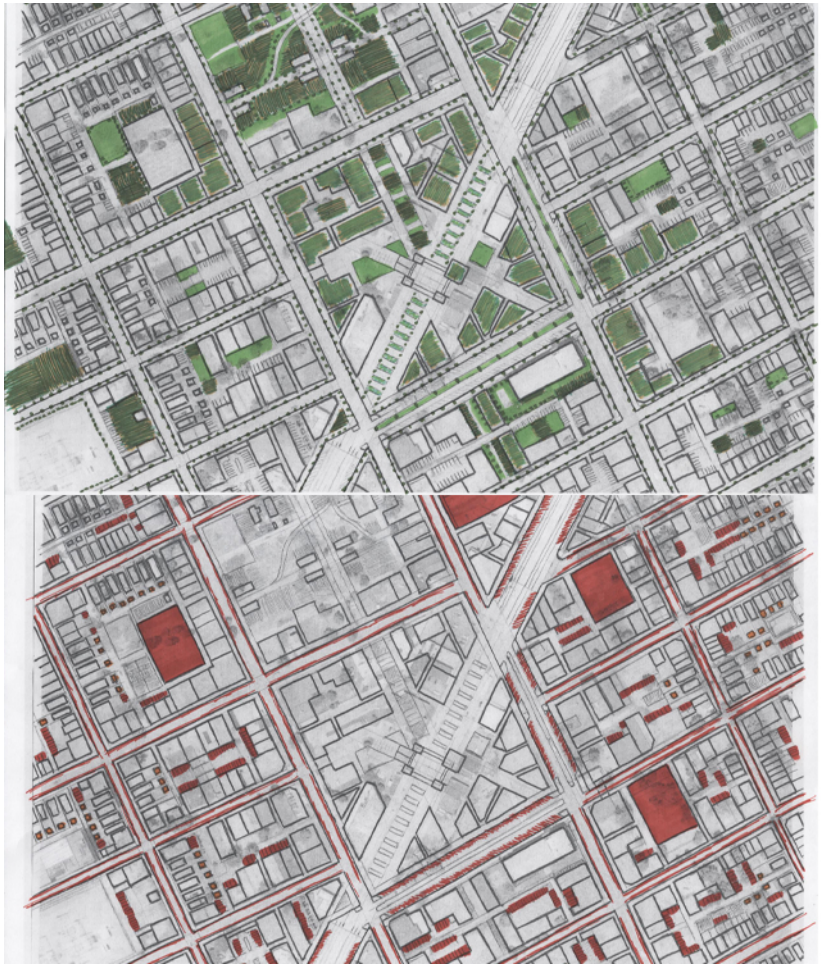
The development would evolve and grow over time. Initially, most of the land would be occupied with urban farming and community gardens. Most of the existing buildings located outside of the core would remain standing until density requires their removal. In order to provide housing of varying types, small clusters of single family homes and row houses

would be constructed near the core. As time passes and the community became more dense farms and gardens would shrink to accommodate more residences and mixed-use buildings. Clusters would eventually be surrounded by other general urban structures. Parking would also change over time. The site contains several dedicated places for parking. They would start out as ground parking lots. When more space was needed, the dedicated lots would be used to construct parking structures. Most of these are located in the middle of blocks or on side streets. When there is a side of the parking structure that would run along the street, first floor commercial would be needed to maintain a pedestrian friendly sidewalk. The site capacity as well as its character

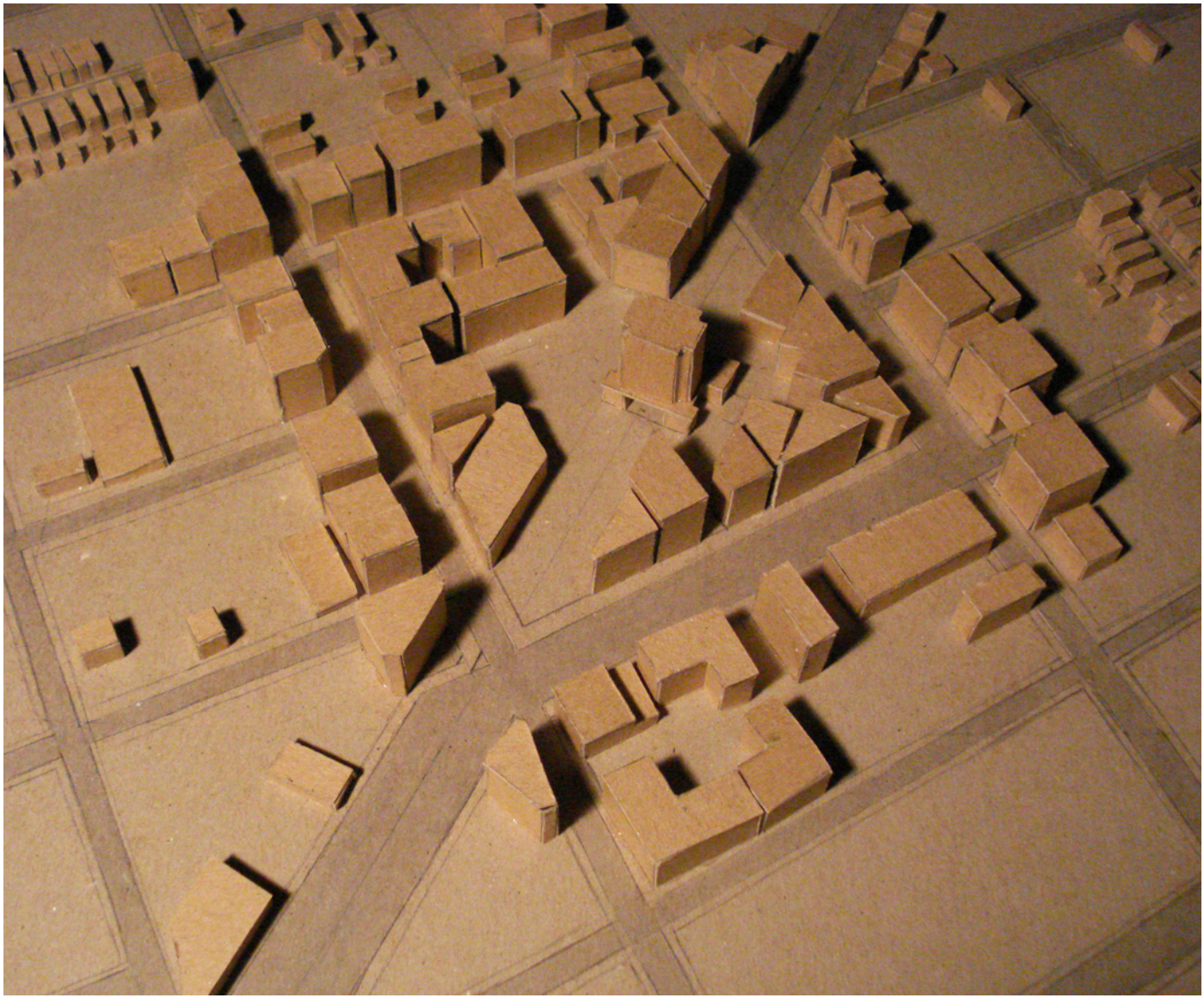


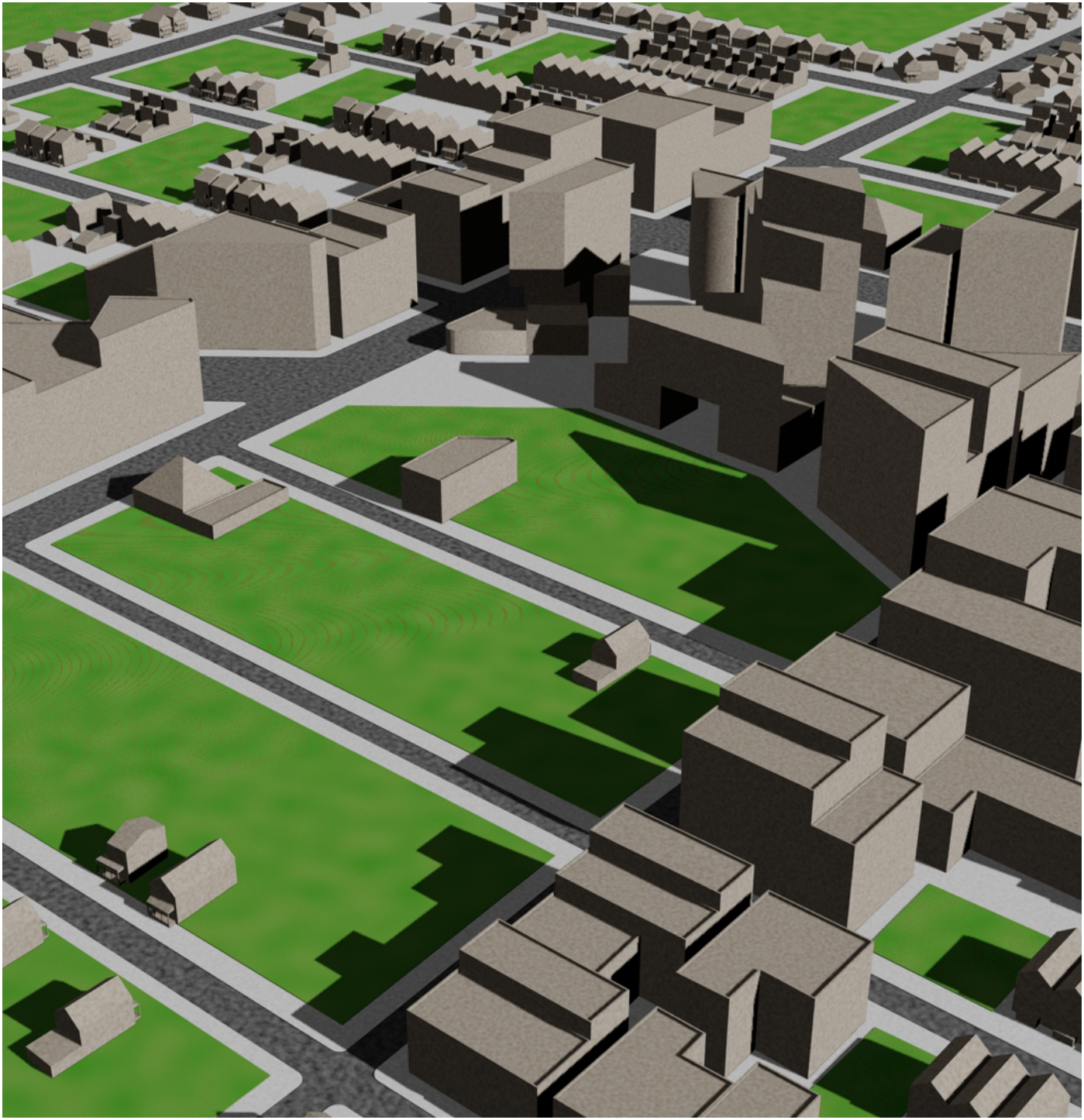
is meant to change over time in response to the needs of the community. After the sites basic form was created it several copies were used to examine the patterns within the design. Some of these were planned while other patterns were not seen until this step. Green pathways were for the most part an intentional aspect of the plan. Patterns in the green areas and gardens were also thought out, but at a smaller scale. Mapping them out in a single map allowed one to see the relationships that are created on the community sized scale. The green map also showed how the roof tops of all institutional buildings along with the buildings they thought would be used for agriculture.

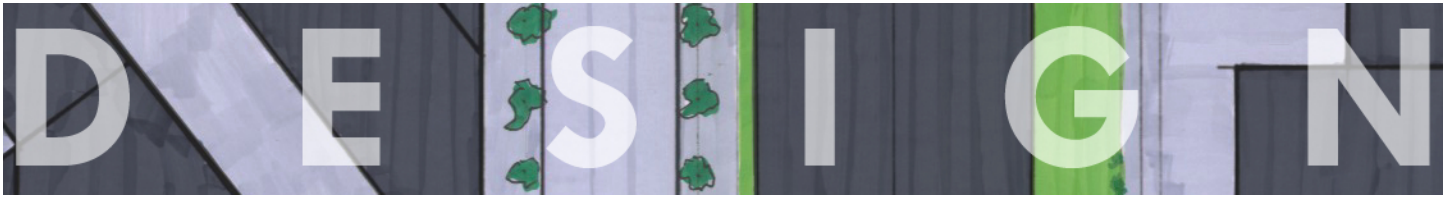
A model was also made to explore that three dimensional



character of the site. Instead of choosing the long term plan I chose to do an intermediate step. It displays how the development could look soon after it was started. The core exists 90 percent complete while the remaining land is mostly undeveloped. The undeveloped land would be used for farming and gardening.







The first stage of the design development came from reviewing the critiques given from the first semester's final review. One of the important critiques was that the project lacked a vision for the broader area of Detroit. This lead to the creation of larger transect maps that laid out a pattern that could be repeated throughout the city. It was also brought up that the community involvement wasn't strong enough. The community needed to be a part of the institution. Finally, the development lacked a connection between the farming aspect of the community and the station. There was unneeded separation that will devoid people passing through from experiencing the purpose of this development. Keeping these ideas in mind helped guide the design process into fruitful territory.

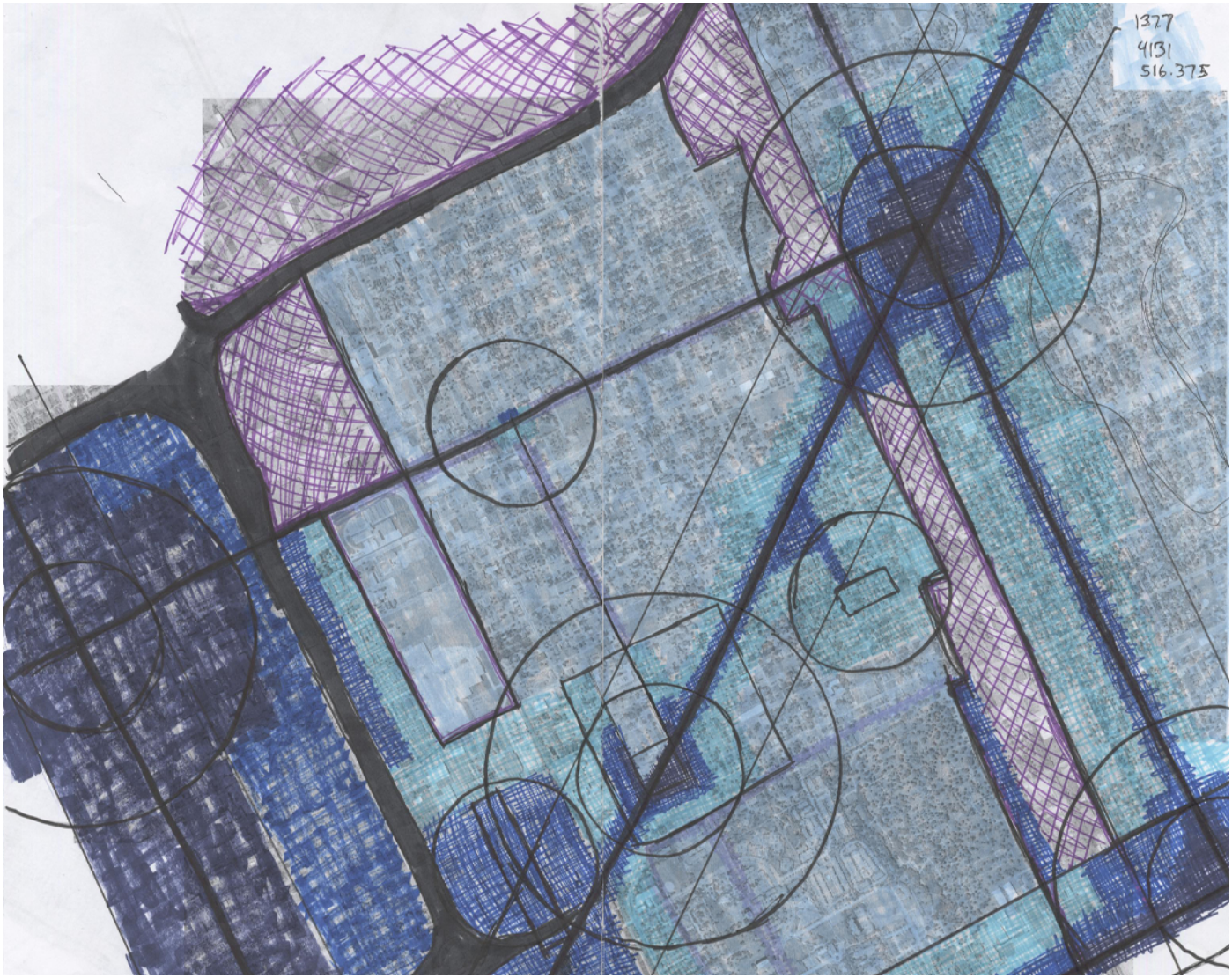
TRANSECT

The transect was expanded in order to provide a general framework for the site transect and figure ground. The idea was to gain an understanding about the larger T2 or rural regions. It also shows the relationship to other population centers and the sites own size relative to the other centers.

The first expanded transect plan covered about 7 sq miles. This showed parts of Woodward Avenue as well as Jefferson Avenue. The industrial zones, commercial strips and major arteries were identified first in order to locate places for future densification. Where important arteries connected became new centers for development. Running along the artery would be a thin strip of urban center transect followed by

urban general. As the artery closes in on another the urban center expands and eventually turns into urban core as the urban center balloons out. Woodward became the central spoke of Detroit. It has the broadest urban core and center transect running along it. Other arteries, like Gratiot Avenue, in comparison are quite small.

The plan went through several different versions which varied in different



scales for developments and the location of arteries. The first plan had a development running through an abandon railway. It is surrounded by old industrial builds, shown on the maps by purple hatch. However, it was decided to use Grand River instead because it allowed industry to use the railway if it was needed. Grand River also connected nicely with Gratiot Avenue and Warren Avenue to create a great location for a development as well as create an axial relationship with Belle Isle.

The T2 Rural areas were determined by the shape of the artery development as well as the amount of vacant land. Thinking about the T2 transect in the first stages of these plans is when transect started to move away from a clearly defined linear progression from rural to urban. It became apparent that the use of a T2 in the country-side needed to vary from how it could be used within city limits. The rural transect initially meant that the land would literally revert back to a rural state. Roads would be removed, unused houses would be deconstructed for materials and land would be altered to accommodate large scale farms. This type of ruralfication of Detroit can be seen on the main site's transect plan as wall as the first 3D models made of the site.

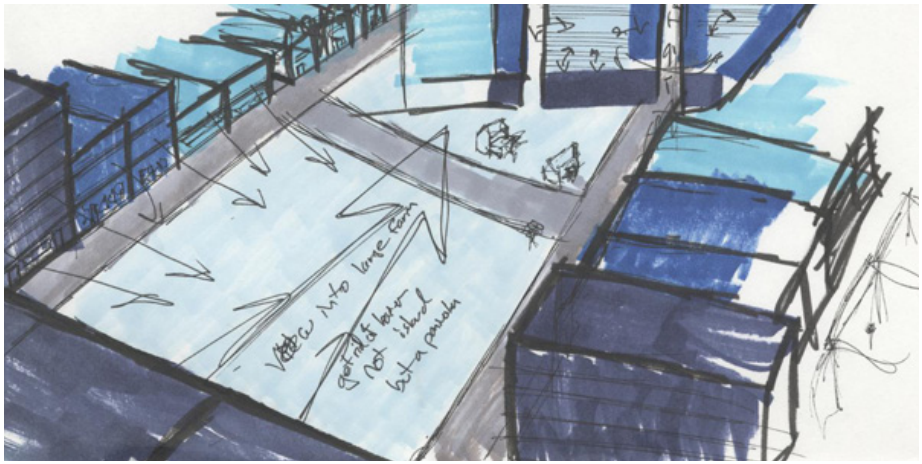
However through critiques it became apparent that the purpose of the T2 transect needed to change to fit the needs of the city. In the country side the T2 transect is used to preserve open land. It preserves farm land and forest. However, in the city rural is needed not to protect the natural world that lies upon it, but to protect the density in other locations. The rural transect discourages the development of the land and directs it to areas that make sense for densification. The change of the transect's purpose also changes the form it would create. Roads would remain, most buildings would not be deconstructed and the land would be used for urban agriculture and gardens. The rural transect would in a sense become a form of preservation of urban and for later use while encouraging development in other areas.

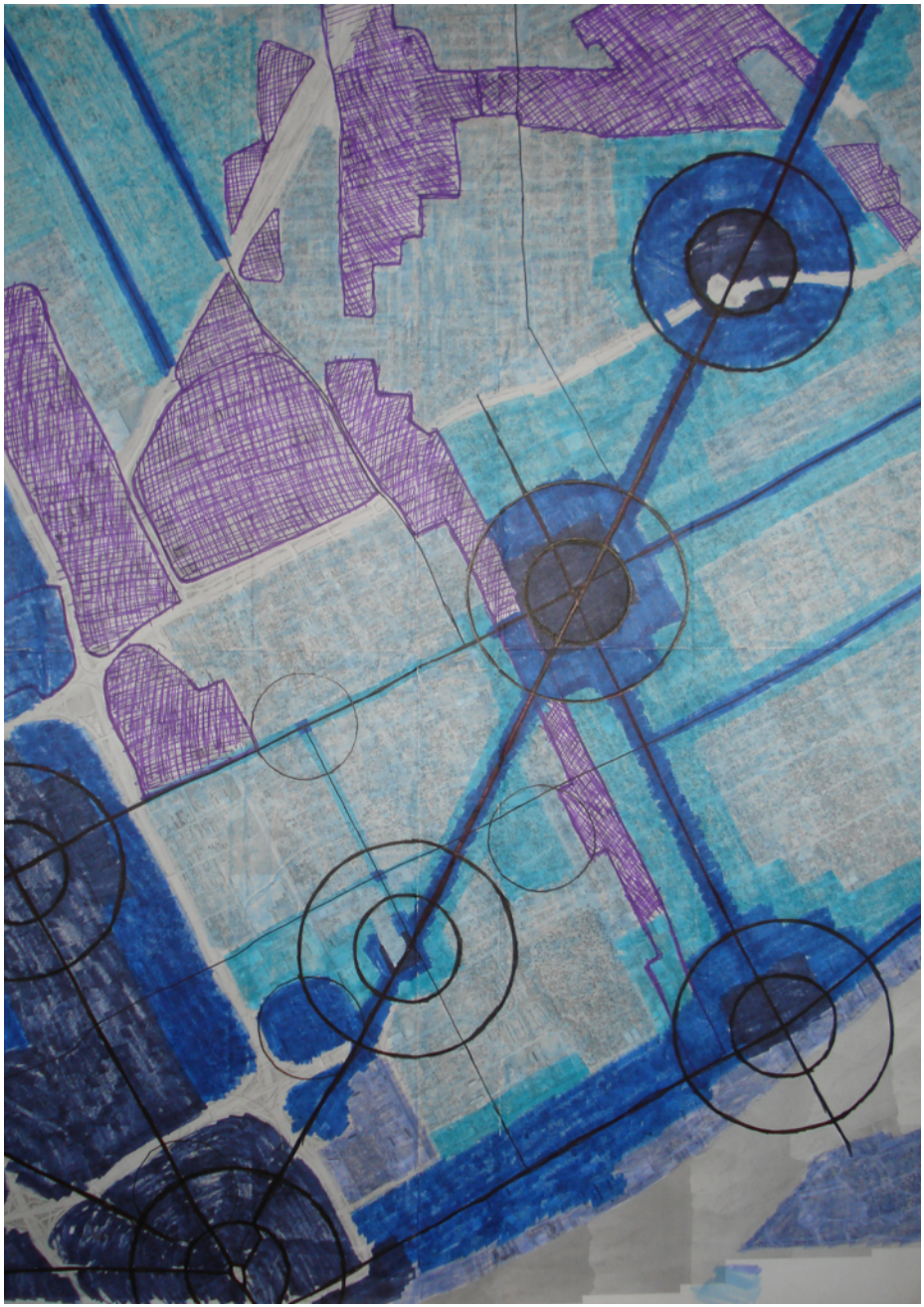
The second expanded transect plan covered around 20 Sq miles. This

plan included part of downtown Detroit as well as larger portions of Woodward and Jefferson Avenue. This plan also allowed for the continuation of nodes along Gratiot which helps define the main site better. This map showed how small the actual development would be compared to others that would be located along Gratiot.

RESEARCH PARK

The community section of the Exploration chapter contains thoughts on what the research garden could become. It was mentioned the community would be involved in taking care of the small gardens in order to help the institution with labor and get food in return. This would be an important aspect of the community, however it wouldn't have the ability to reach out into the other nodes proposed in the expanded transect plans. The sketch design separated the transit hub from the urban research gardens which wouldn't allow people outside of the community to take part. While creating the transect plans it became apparent that it was possible to fix this problem while creating a more grand gesture towards the surrounding farm land. The transect plan shows the research gardens coming all the way down to the Gratiot transit stop. This would allow the transit to interact with the gardens more while bringing the institution's buildings closer to their fields. As one exits the public transit, the station would frame one's view into the research gardens, which would operate as public parks that provide education and food to citizens.





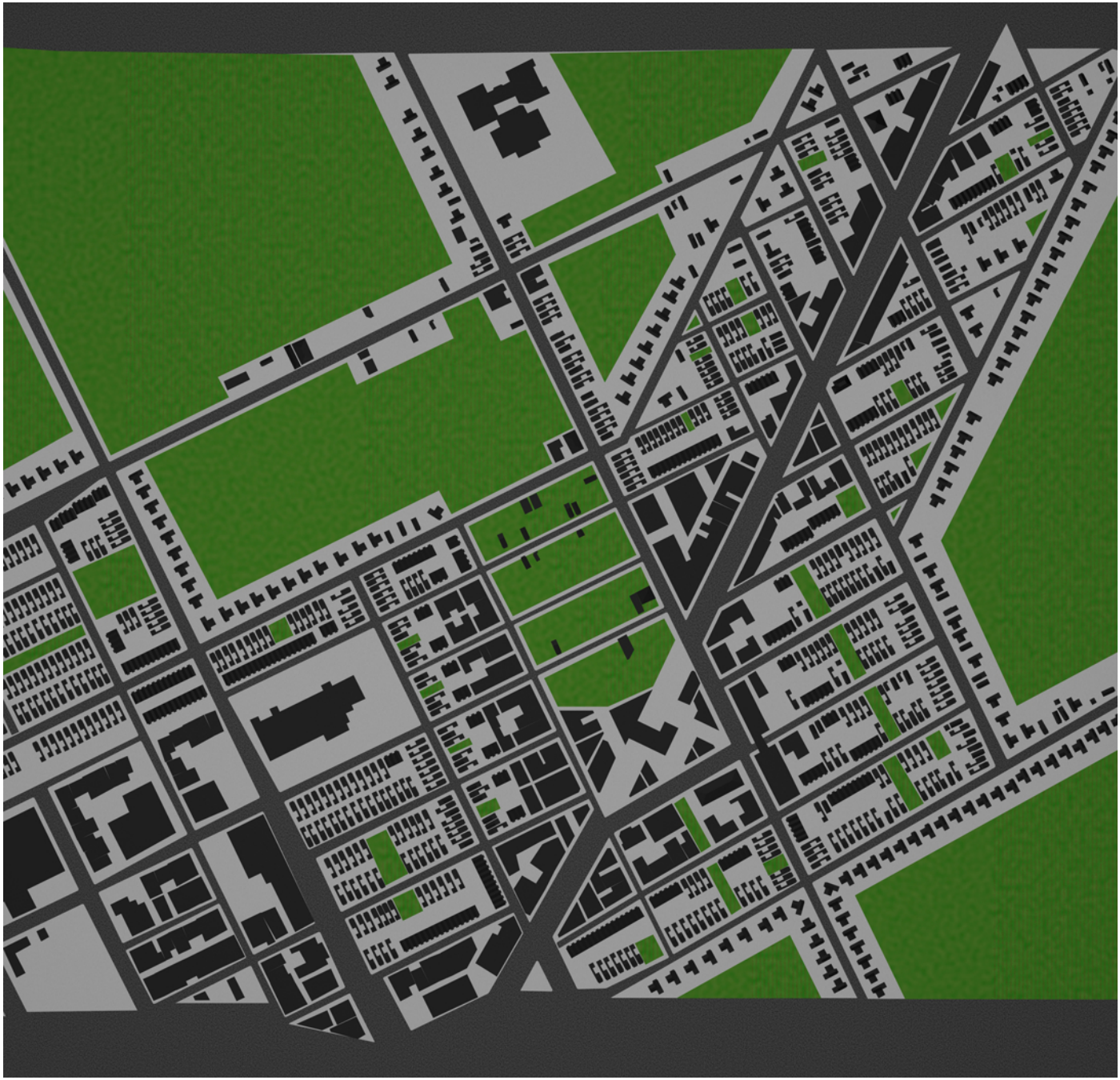
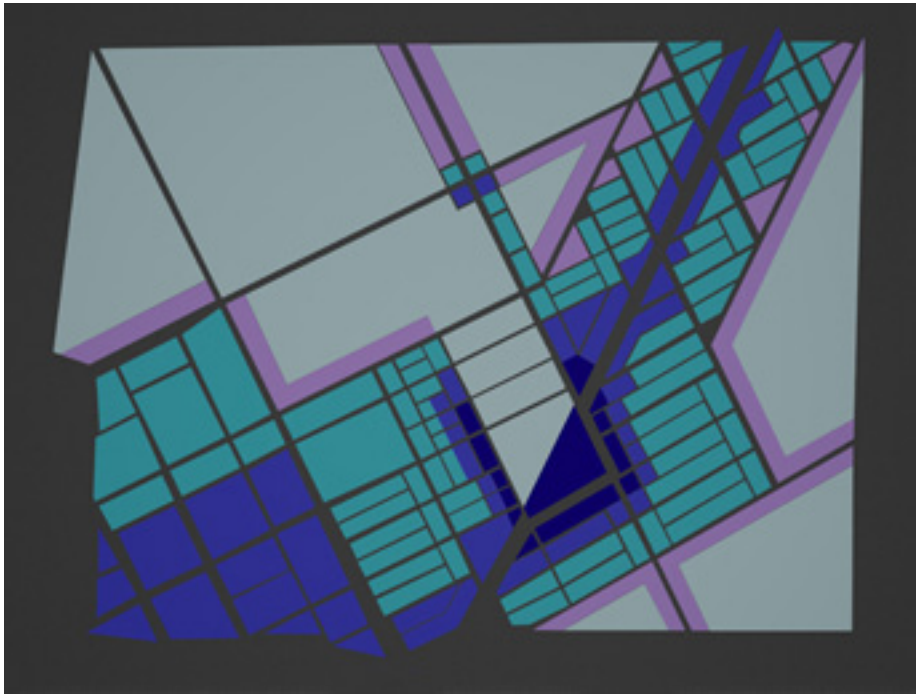


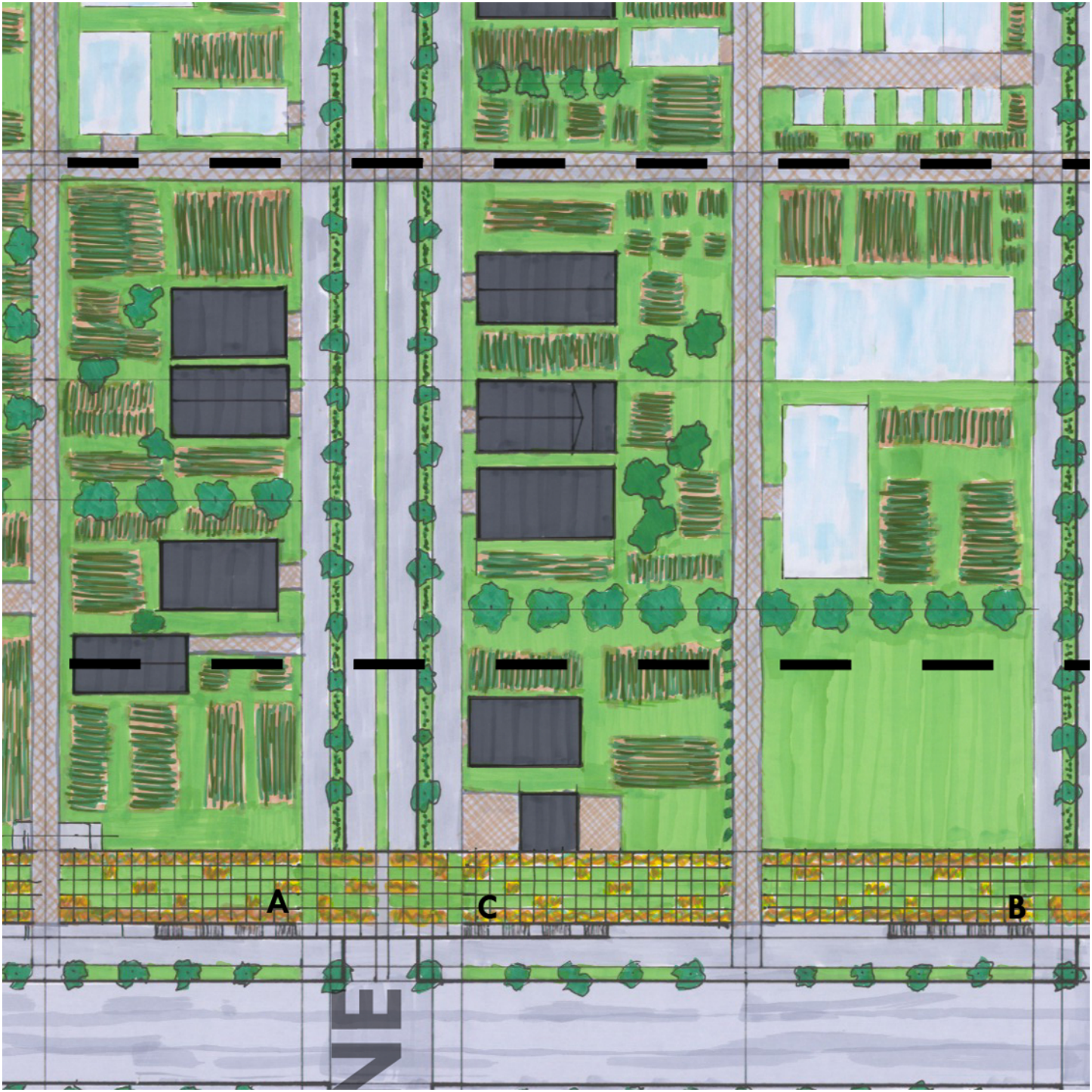
FIGURE PLAN

The figure ground on the opposite page is a realization of the site transect plan below and therefore contains the same weaknesses. The drive running along the perimeter of the development has largely robbed the site of its urban character and has made the prospect of expansion difficult. Clearing large portions of the city grid and buildings, have in a sense, ruralised Detroit. This plan has ignored the cities assets. While it is clear that the amount of infrastructure in place in Detroit is too much to bear; the form of clear cutting shown in this plan undervalues its utilitarian usage for urban farming and industry.

Another weakness of this plan is its inclusion of the suburban transect (shown in purple below). It was meant to create diversity in housing for the development, which it may, but at the expense of its unique character. A settlement based around farming within a city is special because of its Juxtaposition of the two extremes. Therefore, the project has dropped the use of the suburban transect and will skip from General Urban to the



Urban Rural transect. General Urban would largely take on the additional aspect of becoming a boundary situation in certain circumstances. These aspects of the transect plan have lead the project to a place where it can begin to question how a transect should react to its surrounding. These ideas will be looked at later in the final proposal section of the project.


A
C
B
NE

The preliminary proposals, in many aspects, contained nearly as much detail as the final product. This design process allowed a deep understanding of the many issues vital to a project of this scale. At the same time it allowed for the removal of unneeded material. In many cases it allowed both to happen; material could be removed from the projects' presentation without the loss of its input.

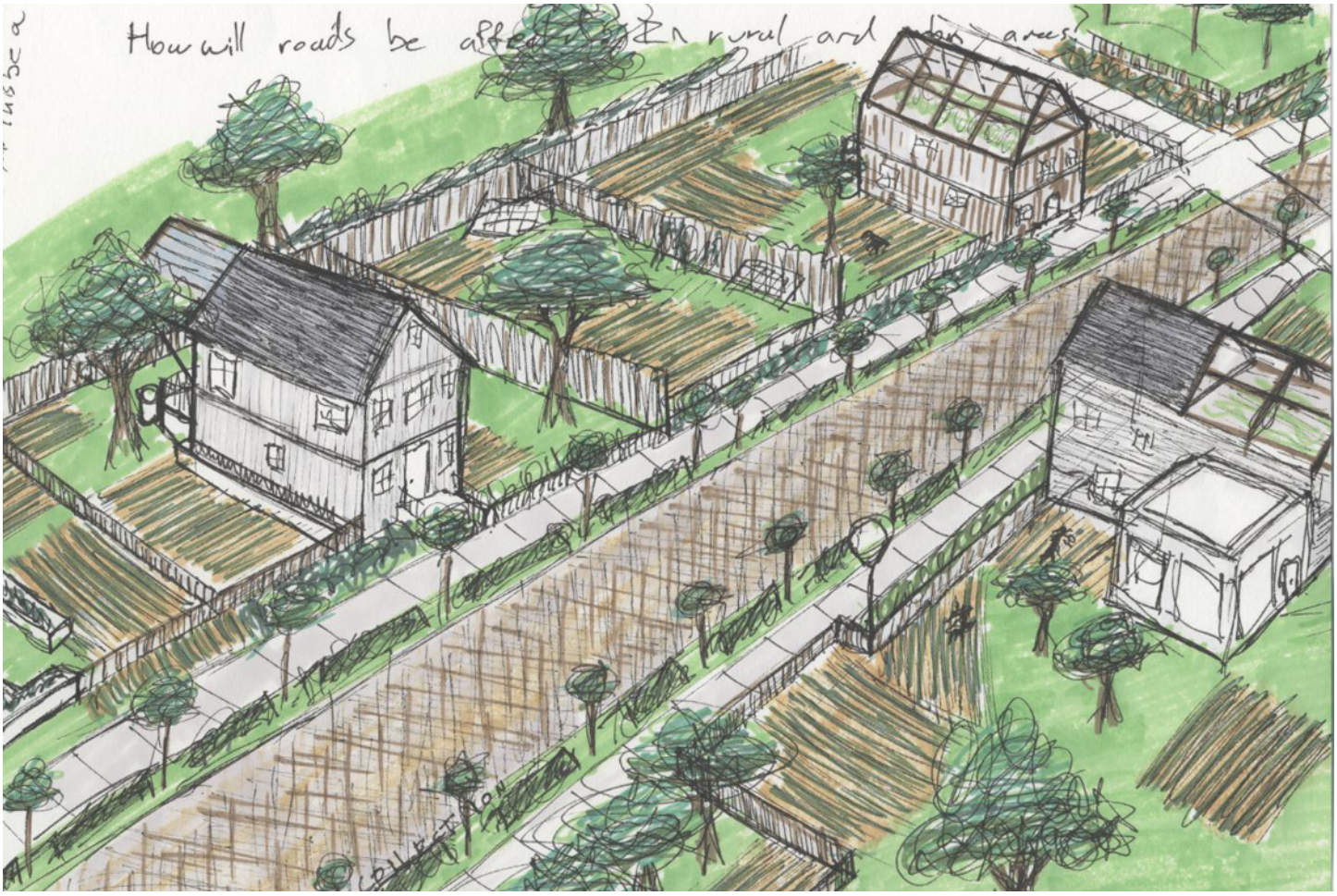
The scope of the project shrunk to a few blocks with the final design of the research park. Many aspects of the project that developed earlier in the year laid the foundation for the design of the research park. Many decisions about topics such as roads, parking and housing weren't graphically shown in the final, but were there providing the background for the more specific design of the research park to flourish. However, the most fundimental base of the project, the transect, became an important part of the project by itself.

T R A N S E C T

It was clear from the critiques of the previous proposal that the rural transect needed to be redefined. The use of the standard rural transect was unproductive toward some of the projects' goals. The rural transect did ensure that developments would occur in denser pockets and that the land could be used for practical purposes, such as farming. However, it failed to create an environment that would preserve the beneficial aspects of cities for future development. The current type of rural transect

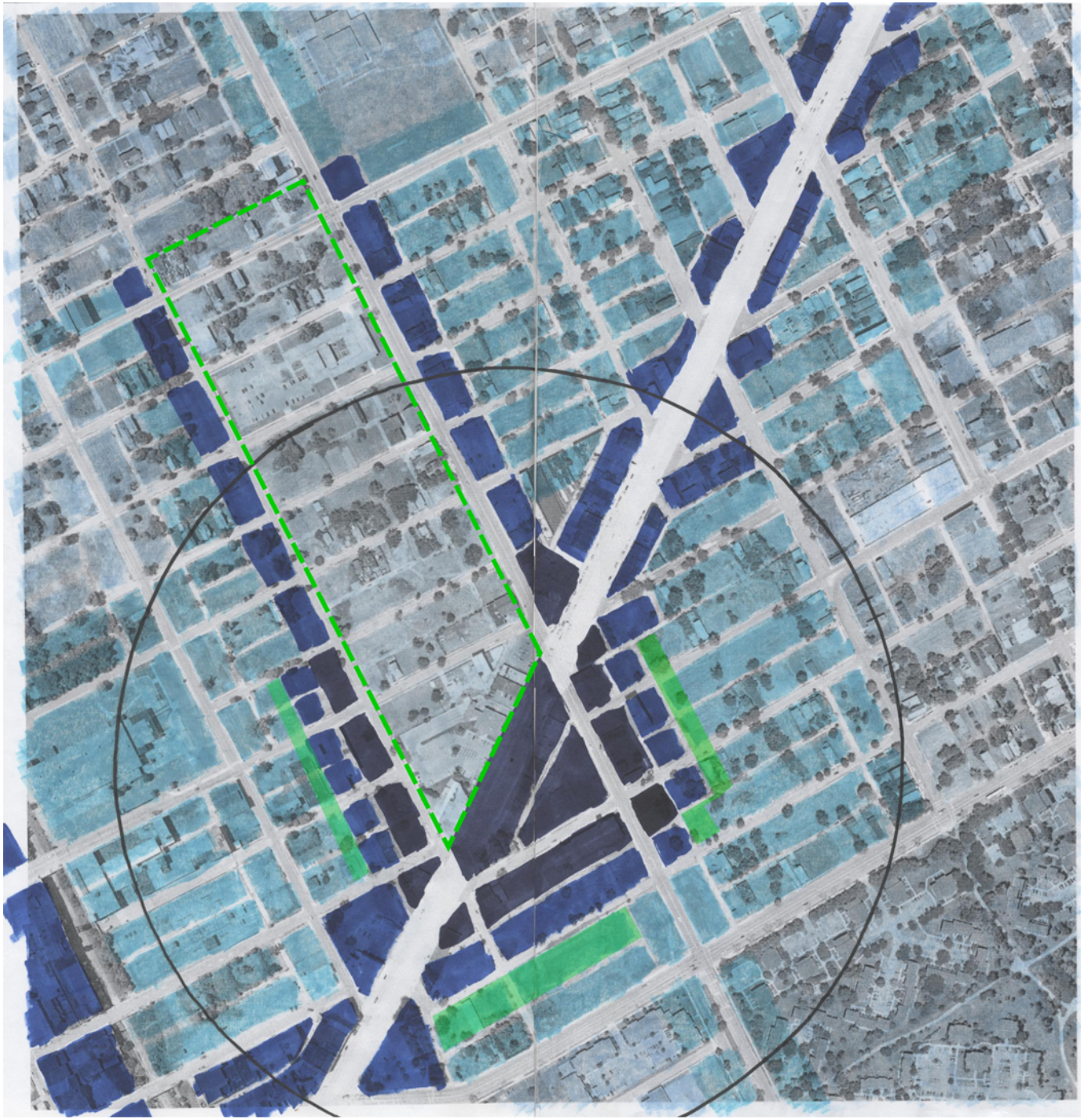
would encourage tearing structures down and removing streets. What the project needed was a totally different kind of rural environment.

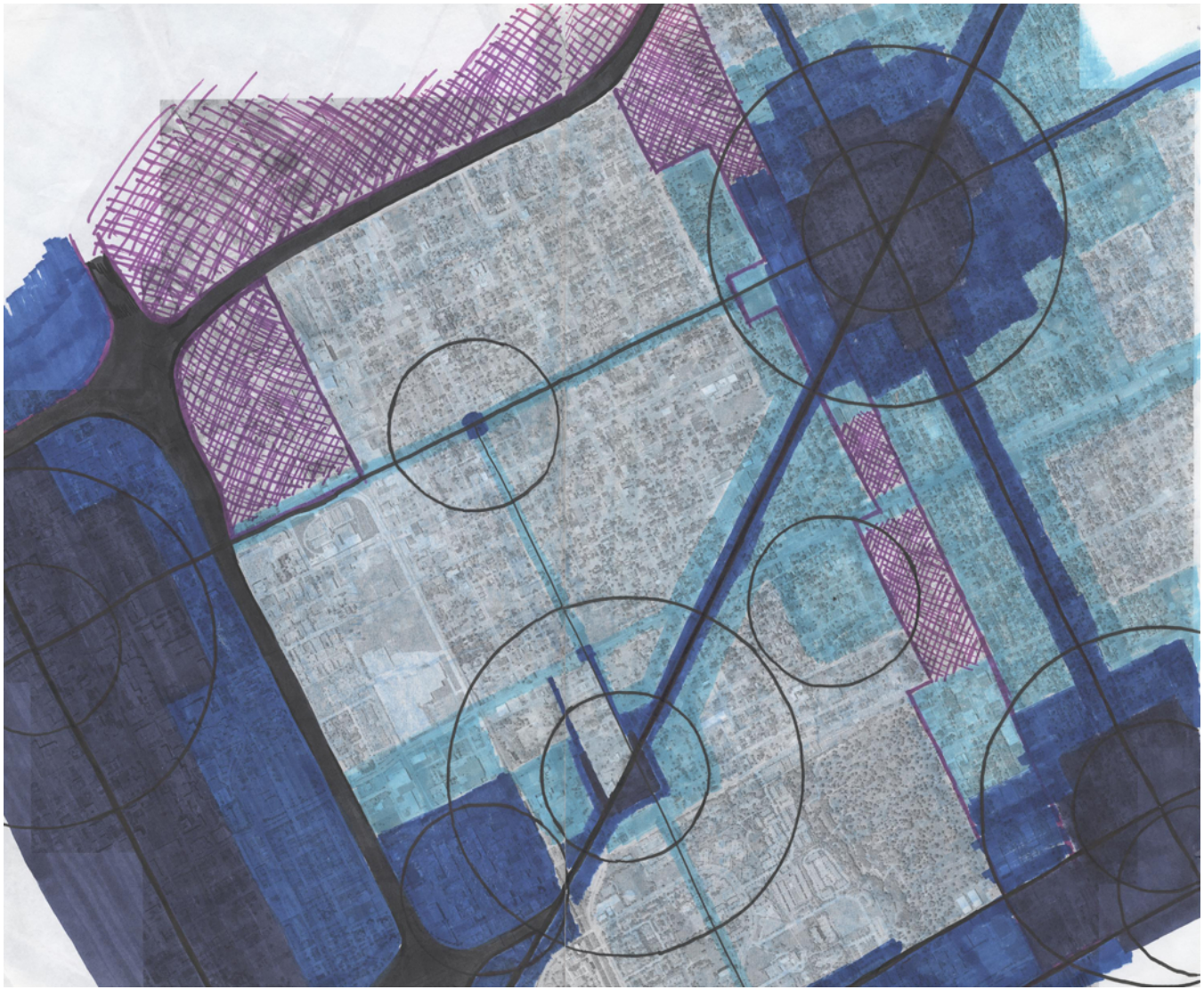
Any typical description of a transect is useful only as a template. Every new implementation of transects require the planner to reorganize the characteristics of each zone to appropriately react to the environment they are being placed upon and creating. In light of that, redefining what a rural transect should be became quite natural. It's similar to how a city of three million would have a different T5 (Urban Center) than a town of three thousand. The main difference is that the changes would be less about shifting scales, such as story heights, and more about altering the fundamental purpose of the transect.

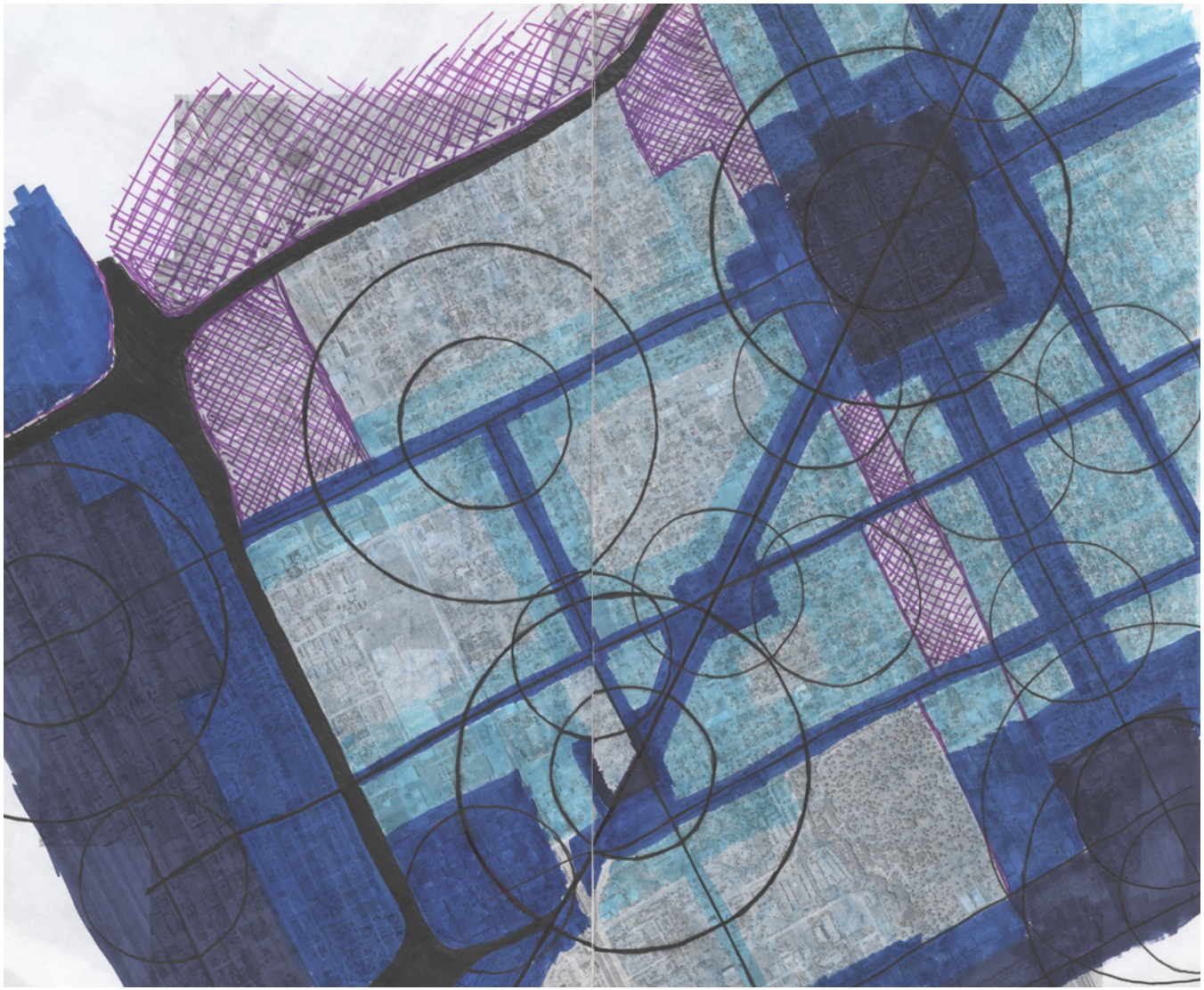


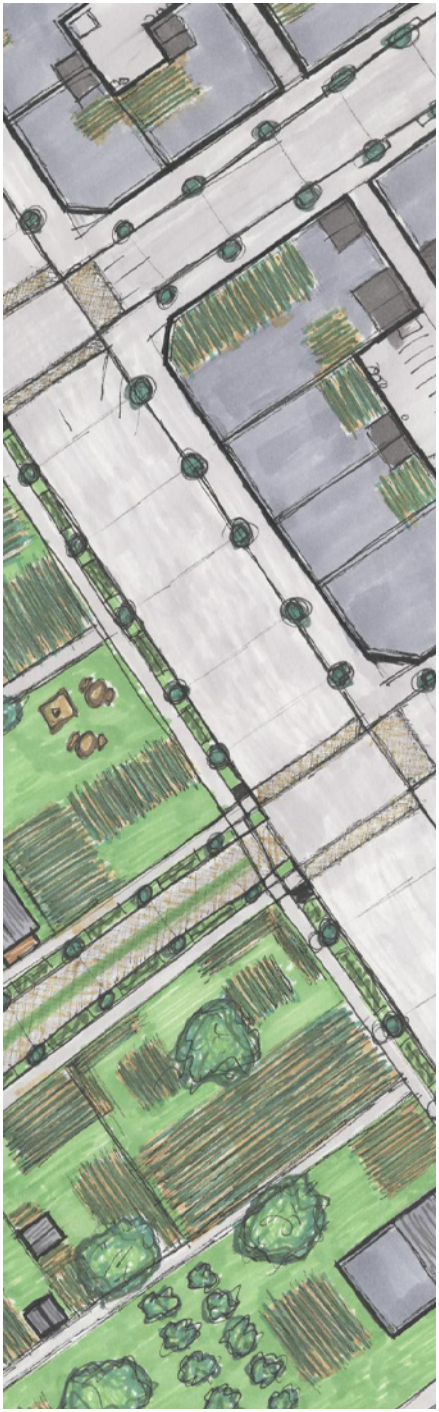
The T2 for this project has been renamed, Urban Rural. The key difference between this and the traditional rural transect is that its primary function is to promote development elsewhere rather than protecting the openness and wilderness of itself. The secondary purpose of the Urban Rural transect is to protect infrastructure for future developments. The amount of upkeep of the infrastructure would depend on the amount of inhabitants in the area and its distance from denser transects. Areas that still maintained a decent population would be preserved as normal, while areas mostly empty and far from a urban development would have its roads replaced with a less maintenance dependant road system. It would be possible, if an area had enough vacancies that some roads would be removed or simply not maintained. However, the right of ways would remain; ensuring that the road could once again return when needed. Similar policies would be used for other infrastructure, like water and power. Buildings would remain on the site and used for utilitarian purposes or to house people working on park or urban farm land. The most important aspect about housing in the Urban Rural transect is that the people living in these houses would do so by choice rather than by lack of opportunity. The residents would know what situation they were getting into and would be able to adapt to the environment.

The transect plan shown for the site exhibits the new Urban Rural transect. In this plan the streets are maintained in the T2 areas. The research park has been elongated to meet Mack Avenue, which anchors the north end of the park creating symmetry with Gratiot Avenue. The most visual representation of the parks form on the transect plan can be seen in its border condition. The park has been lined with strips of Urban Center transect zones; creating a wall for the park as well as a unique configuration for development to occur. Rather than creating a purely central plan in which the transect slope downward equally in all directions, this plan responds to the odd street angles and the research park. It still has a center to the development, but now has a sense of direction that pulls one toward the urban farms that lie further north.









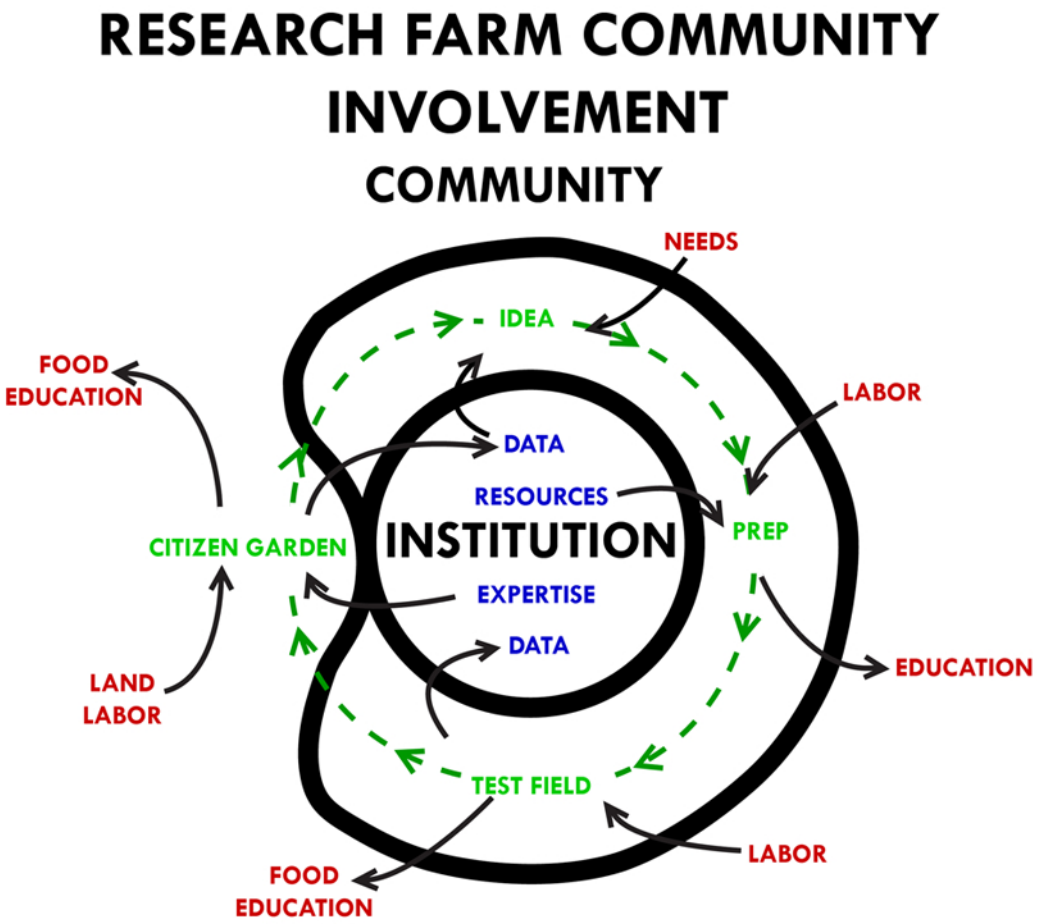
RESEARCH PARK

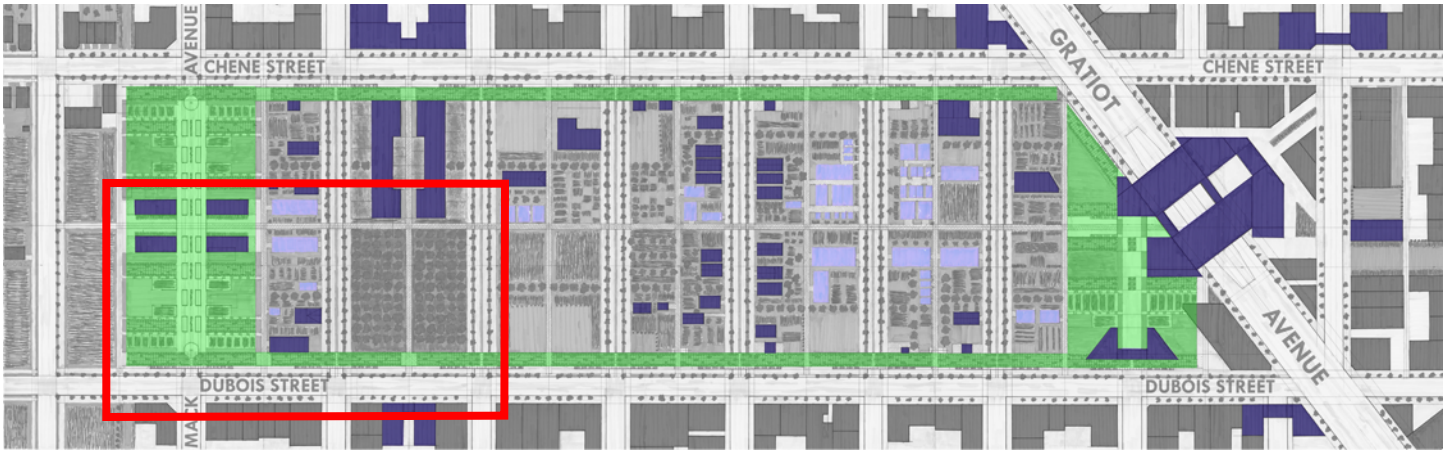
The urban farming research park has become the most detailed aspect of the final proposal. This was because of a deeper understanding of how the research park interacted with the community. The diagram shows the flow, inspiration, hard work and mutual benefit that would be taking place within the park. Notice that the community surrounds the institution and that the research park becomes the major place of interaction. Since the research park would be discovering ways to make gardening in an urban setting easier for the average person it makes since to start following the diagram with the communities needs. Citizens would come to the institution with needs, information about their physical and financial capabilities and, sometimes, ideas. The institution would be able to input their knowledge and research on the topic and provide a plot in the urban farming research park for an experiment to test the idea. The citizen would then help prepare for the experiment and take care of the crops throughout their life cycle. The Urban Farming Research Institute would get in return, free labor and data from the experiment. On the other hand, the citizen would get food, knowledge from the experience and valuable interaction with the community. Once a method of growing is determined to be successful the institute would reach out to people in the community of Detroit, within or outside of the immediate hub, and offer support in recreating the experience on a citizen's private property. This would ensure that the community would be continuously involved with the research institution.

The plan built off of ideas created earlier such as terminal views and dispersion of the institutional building but placed those ideas in an environment where most of the buildings were existing. The design of the park was just as much a design of the institutions' physical and organizational structure. The blocks are preserved in some respects. Many of the buildings remain; some of the houses are still being used for housing while other are used as greenhouses. Some of the larger buildings are modified to meet the institutions needs, but many of the footprints and facades of the past are still standing in the park's final form. On the other hand the park has become the most important part of this

development, which is a complete change from its existing state. The park now holds the developments' purpose, character and source of community.

The most notable extension of past ideas is the dispersion of the institute's buildings. The map shows the institutional building in blue, which were placed using the method of visual termination described in earlier work. Creating the visual termination on Gratiot Avenue by having the institution center cover the transit hub through the form of the buildings mass was repeated in the from of many of the buildings in the final proposal. Several buildings bridge alleyways, streets and walkways; the inspiration for the idea, the institutions central building has changed as well. Gratiot Avenue now runs straight underneath

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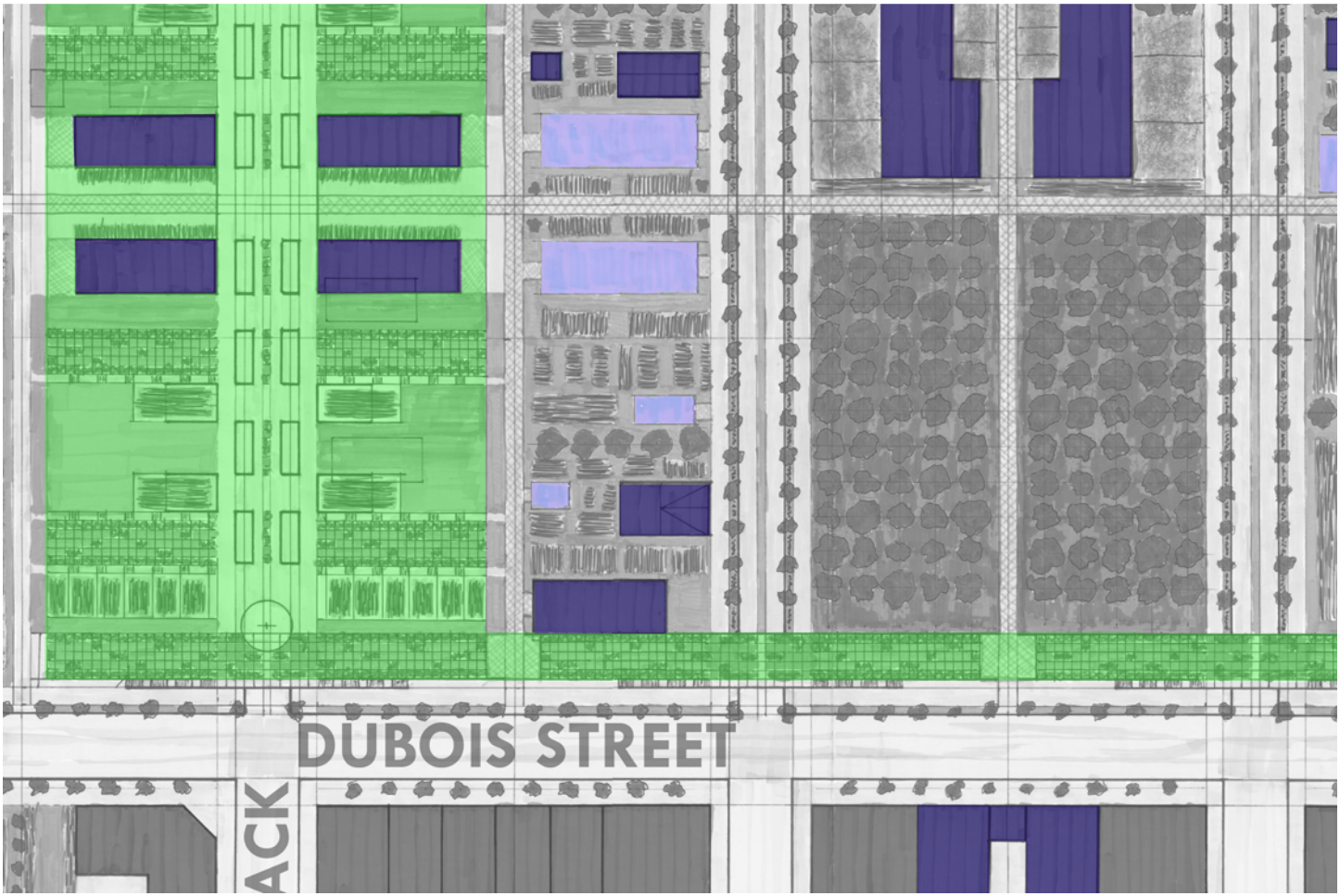
DUBOIS STREET
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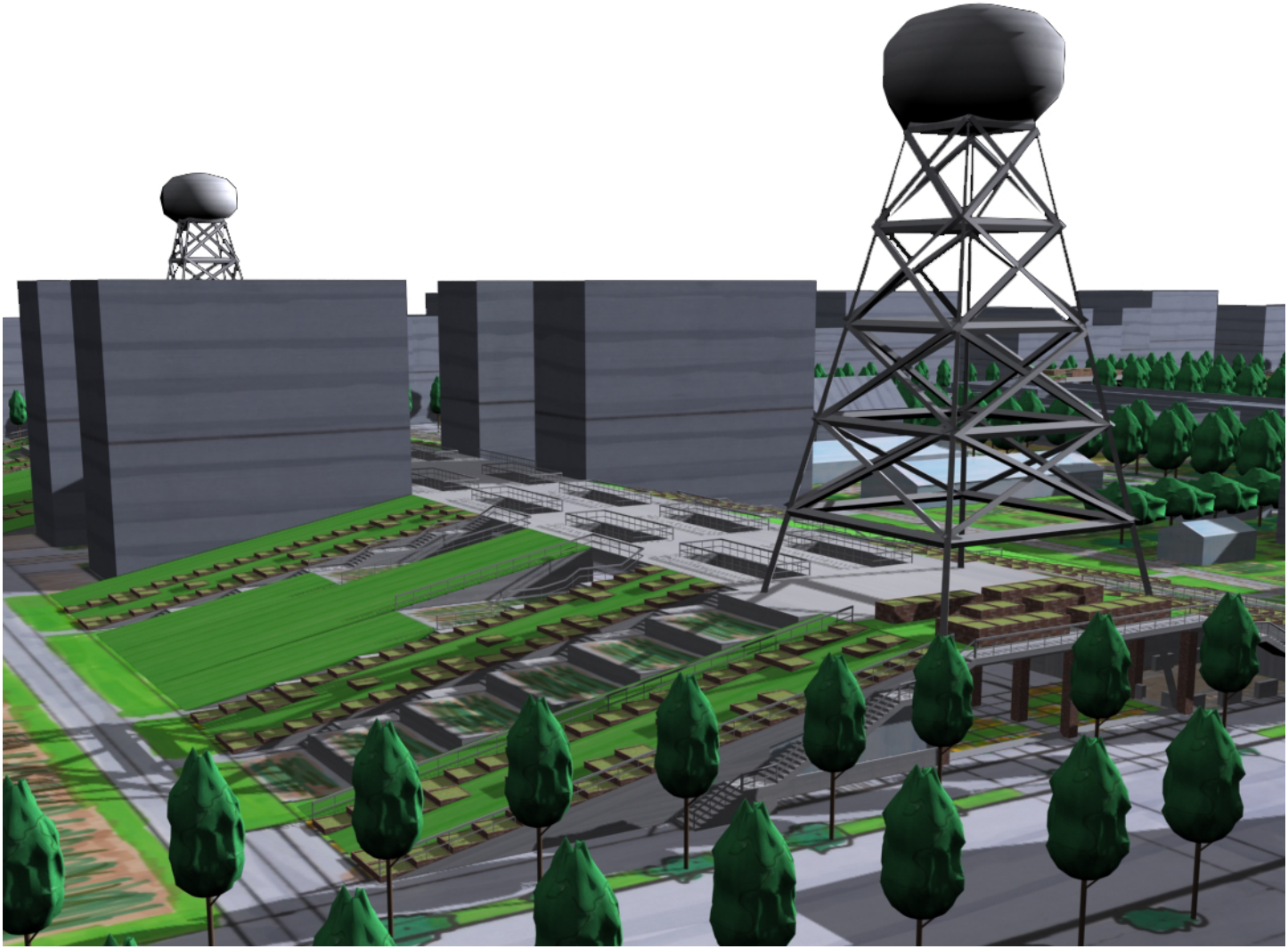
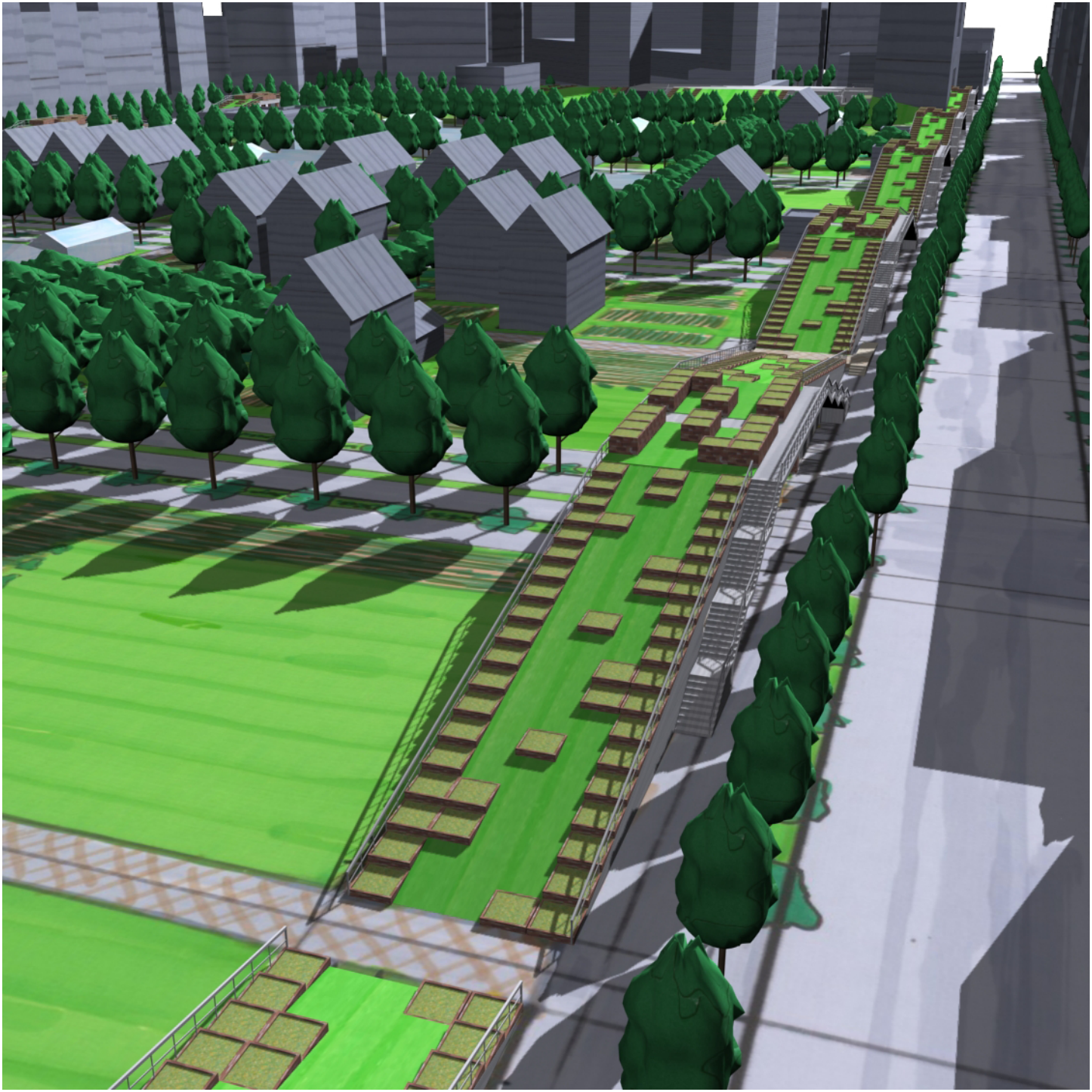
the building. The new road design would include: two lanes of transit running down the center, which would widen under the building to create stations; two lanes of traffic going both ways; and street parking except where the transit station widens. Keeping Gratiot Avenue straight rather than jogging it to the side was chosen to allow better movement through the area. The original intent to divert Gratiot Avenue was to make the personal automobile less advantageous. However, it was determined that diverting the street would cause too much harm to the area without enough benefit. This current design would still slow down traffic and promote mass transit without driving people away from the area.

Another element of the park that came from the bridging of buildings and the visual terminus concept was the water filtration path that runs along the parks exterior in green. The path originated as a visual queue that one was walking toward the park. In order to fit with the institutions' buildings these visual queues became elements that would bridge over streets running through the park. They started out merely as archways in sketches to get the basic idea across. The design of the park required that the elements needed to have more weight than the archways. The X and Y dimensions of the structure grew until they became pathways. These would create a repeating pattern of 25' wide ramps that would rise 18 feet above the streets. In addition to creating visual queues and a exhilarating urban hiking trail, the ramps would also contain strings of planters that would be used to filter storm and grey water from the surrounding area. Water is filtered through the soil and plant matter of the planter, using gravity to bring the water down to the next planter until it is clean enough to be stored in one of two water towers on the north end of the urban farming park. The planters are constructed out five by five foot squares jutting out from the slope of the ramps. At each end of the 25' width of the path a continuous line of planters run down the edge. Within the center of the path a pattern is created by creating a five by five foot grid and then creating planters in a patter of two, space, one, space. The two patterns combined create consistency for the passer by while allowing for uniqueness for the person walking on top of them.

At the north and south ends of the park these ramps would become extruded into the blocks until they join in the middle and cover the entire

street. A path running horizontally through the blocks, cuts through the two extended ramps. Light filters down into the streets from holes in the pedestrian street above and notches cut into the ramps. The notches would create flat areas on the ramps which would be used for agriculture along with terraced strips. Steps are periodically cut into the ramps to provide easier access to the raised pedestrian street form the middle of the block. Walking along the long access of the north block one would be encountered by a pattern of water filtration terraced agriculture, grassy hills and store fronts. Finally, the path also harbors small spaces underneath the ramps that provide support for the park, and in some cases, clients.



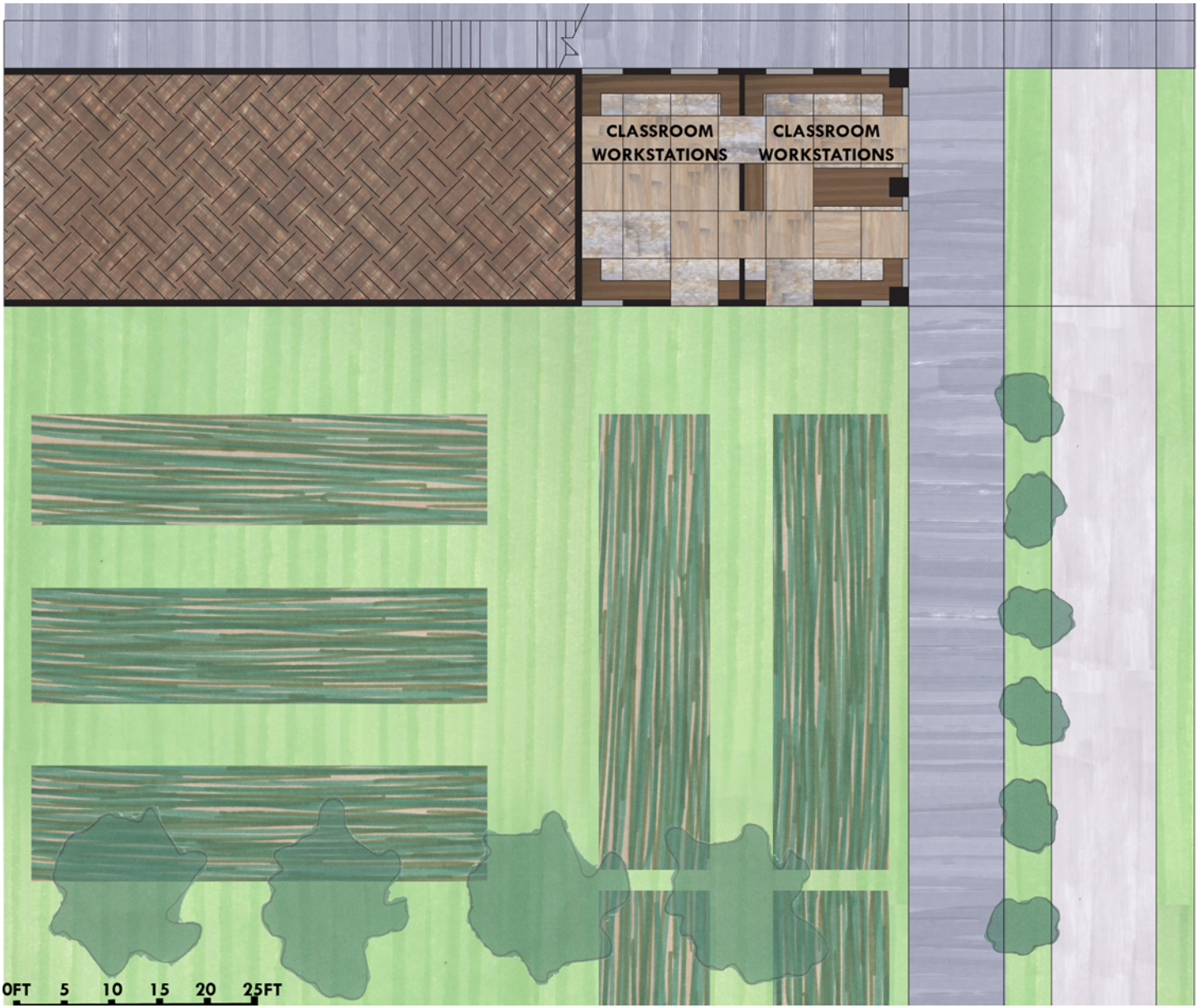


The water filtration pathway spaces are divided into five different typical situations: classroom, open program, restaurant, cafe and headquarters. The classrooms are spaces used by the institute for educational purposes. These areas are set up to accommodate workshop style classes with children or adults after school or work. They are places where people don't only learn how to properly pot plants or how to trim them; this is a place where they can get their hands dirty. Because of this, these locations are open to the exterior.

Open program spaces are locations where anyone can come and hang out at any time. They can eat lunch or throw parties with a place that is designed to be flexible. The open program spaces are surrounded by the most traditional park setting. They are usually adjacent to large lawns, which can be used by people in these spaces for sports or lounging. These spaces are also open to the exterior in order to maintain openness and a character similar to a pavilion.

The restaurant and cafe would both be a form of start up businesses. People from the community would have the opportunity to create temporary restaurants or cafes with the help of cheap food supply offered by the institute's research park. These spaces would be a testing ground for a small group of citizens to test out their skills in the food service sector. If they become successful they would move out of the temporary locations and into a permanent location in the community or elsewhere in Detroit. These spaces are designed to support low maintenance bare bone operations, similar to what one would find at a fair ground, but with a longer life span.

The last type is actually not a typical situation. It is an unique building on the corner of Chene and Wilkins Street that would house a larger restaurant and the headquarters of operations for the rest of the programmed spaces. The headquarters would manage the scheduling and maintenance of the programmed areas as well as provide office space for the restaurants and cafes. Temporary owners of the restaurants and cafes benefit from the sharing of resources and experience while in the office.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CLASSROOM
WORKSTATIONS
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OPEN PROGRAM
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SERVICE AREA
BATH
BATH
KITCHEN
0FT
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SERVICE AREA
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STORAGE
0FT
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SERVICE AREA
BATHROOM
SERVICE AREA
BATHROOM
STORAGE
KITCHEN
OFFICE
STORAGE
OFFICE
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OFFICE
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OPEN OFFICE AREA
OFFICE
OPEN OFFICE AREA
OFFICE
LUNCH ROOM
0FT 5 10 15 20 25FT

The uses of the institutional buildings can be seen on the detailed plan. Excluding single family houses and the water filtration path spaces, almost every institutional building is mixed-use. These buildings hold a range of recreation, housing, offices, commercial and institutional spaces which help spur pedestrian street life. The plan shows the uses for the first floor of each building. The uses of these buildings were determined by the parks relationship to community, Eastern Market, the larger T2 urban farms and axial relationships present in the plan. The buildings at the north end of the park are designated as builds for interaction with the larger scale farmers north of the site. Buildings located at Dubios and Brewster Street would be the institute's connection with Eastern Market. Buildings located in more public and central places often hold community functions like a forum or community design studios.

Other uses were determined by strong axial relationships created by existing buildings. The large building on Chene Street in between Hale and Scott Street is currently a Detroit Water and Sewage Department building. In the plan it is modified to create two symmetrical buildings that would be used to house and treat livestock. An existing courtyard was used to create an axis running parallel with Hale and Scott Streets. This axis is continued in the second half of the block which consists of a relatively large grove with the existing ally maintaining the axis. It is continued to cross Dubois Street with the Orchard Center and across Chene Street with the Indoor Agriculture Center.

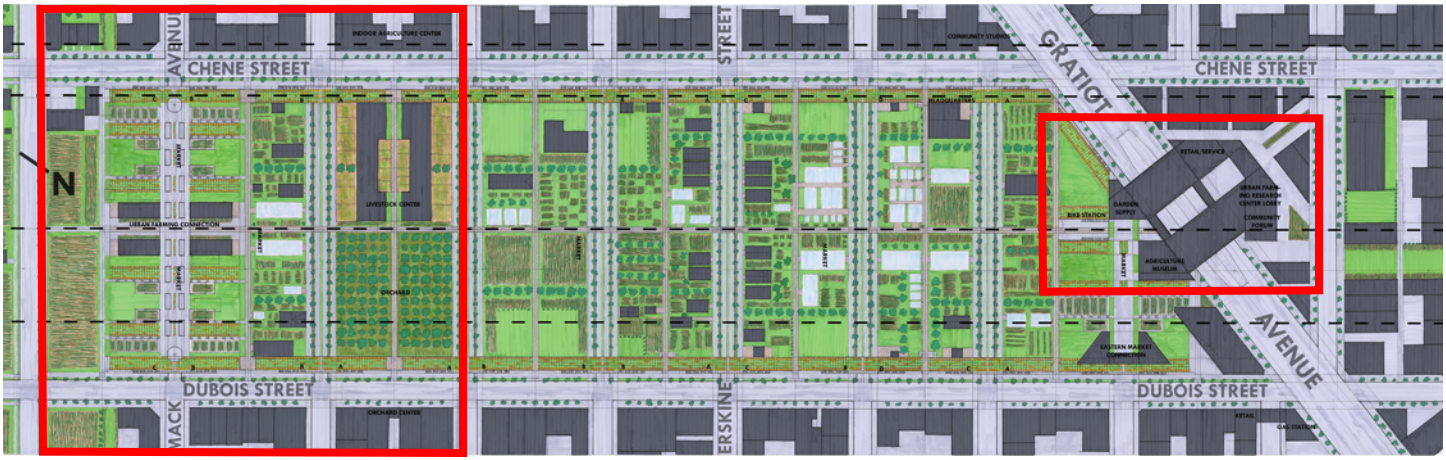
The interior of the urban farming park consists of agriculture ranging in size from a small backyard garden to larger gardens taking up several lots and even orchards which take up half a block. This variation is meant to duplicate the different types of urban farming that can be seen around Detroit. Erskine Street has the most existing buildings out of any other street located in the park. These buildings are restored in the plan and accompanied by several new houses in order to a zone of blight farming. This area would serve as a tool to test systems in an area in between total vacancy and occupancy. One street to the south lays the greenhouse zone which contains structure ranging from 50 square feet up to 1250 square feet. In addition to the large apple grove near the livestock area lines

of fruit trees run parallel with Chene Street while other areas mix fruit trees and tilled soil to prompt experiments in gardening in the shade.

The roads circumventing and running through the park have been altered to enhance the experience of the pedestrian. While traffic is allowed to move around and through the park freely, parking has been removed from the exterior boundary and interior streets. This is done to preserve sight lines and the purity of the park. However, removing street parking removes a key aspect toward creating a pedestrian friendly street: psychological safety. Parked cars create a solid boundary between the pedestrian and moving traffic. Since the plan calls for removing street parking the streets would instead be lined with a series of trees, planters and vine trellises. These create a boundary while also allowing for additional gardening.

The streets running through the park also have speed cutting measures. The streets are only one lane each way and they are separated by a median, which make each lane quite narrow. The pedestrian path-way running the length of the park also cuts through these streets, changing the pavement and adding another queue for the driver that says, “Pedestrians own this area.”

The design of this project has focused on creating spaces that are useful for the community as well as the research institution. By providing systems for the community to interact with the institution and by locating and programming the institutes space very selectively, this proposal has created an institution that embraces the community without overpowering it.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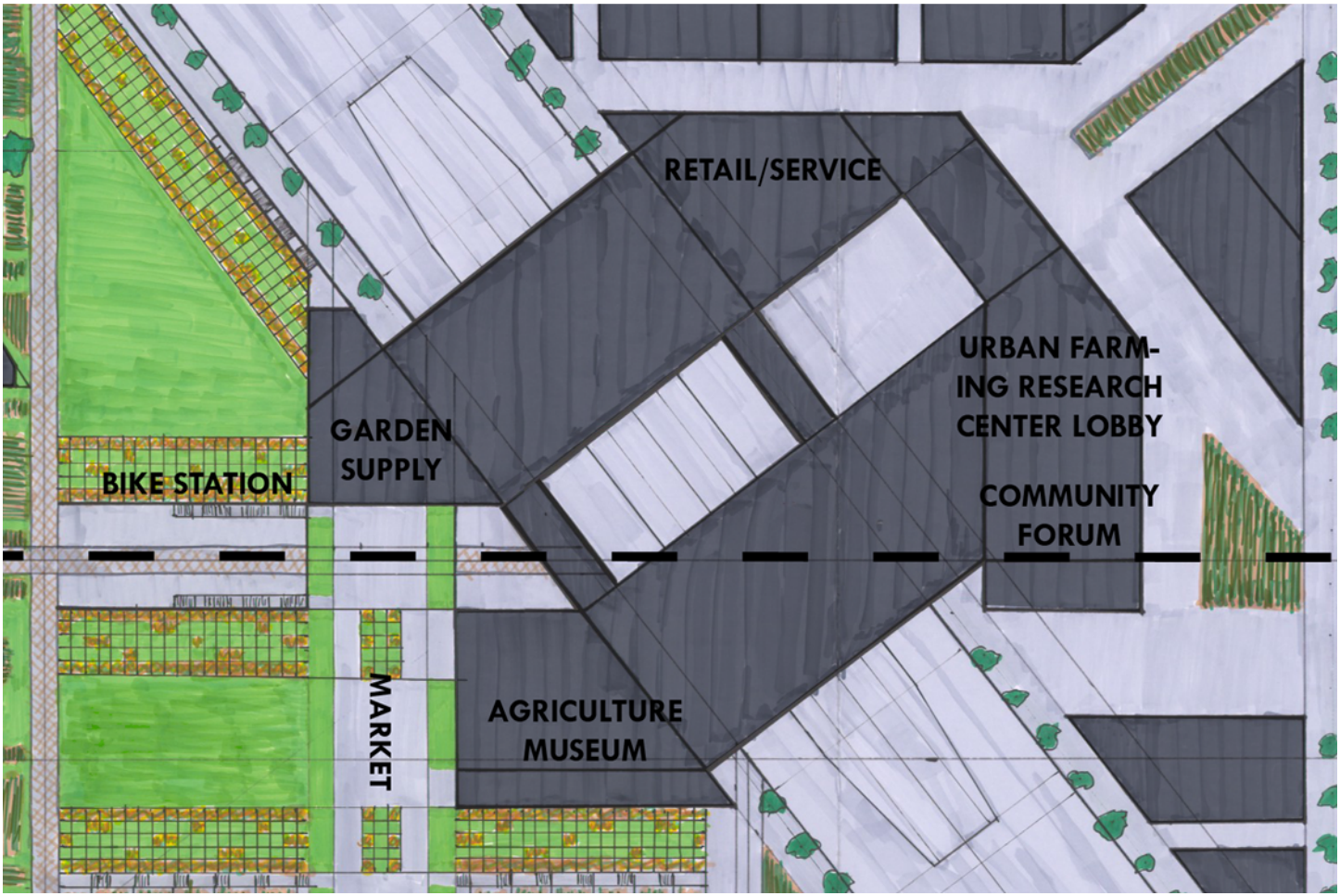
RETAIL/SERVICE
URBAN FARM-
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MUSEUM
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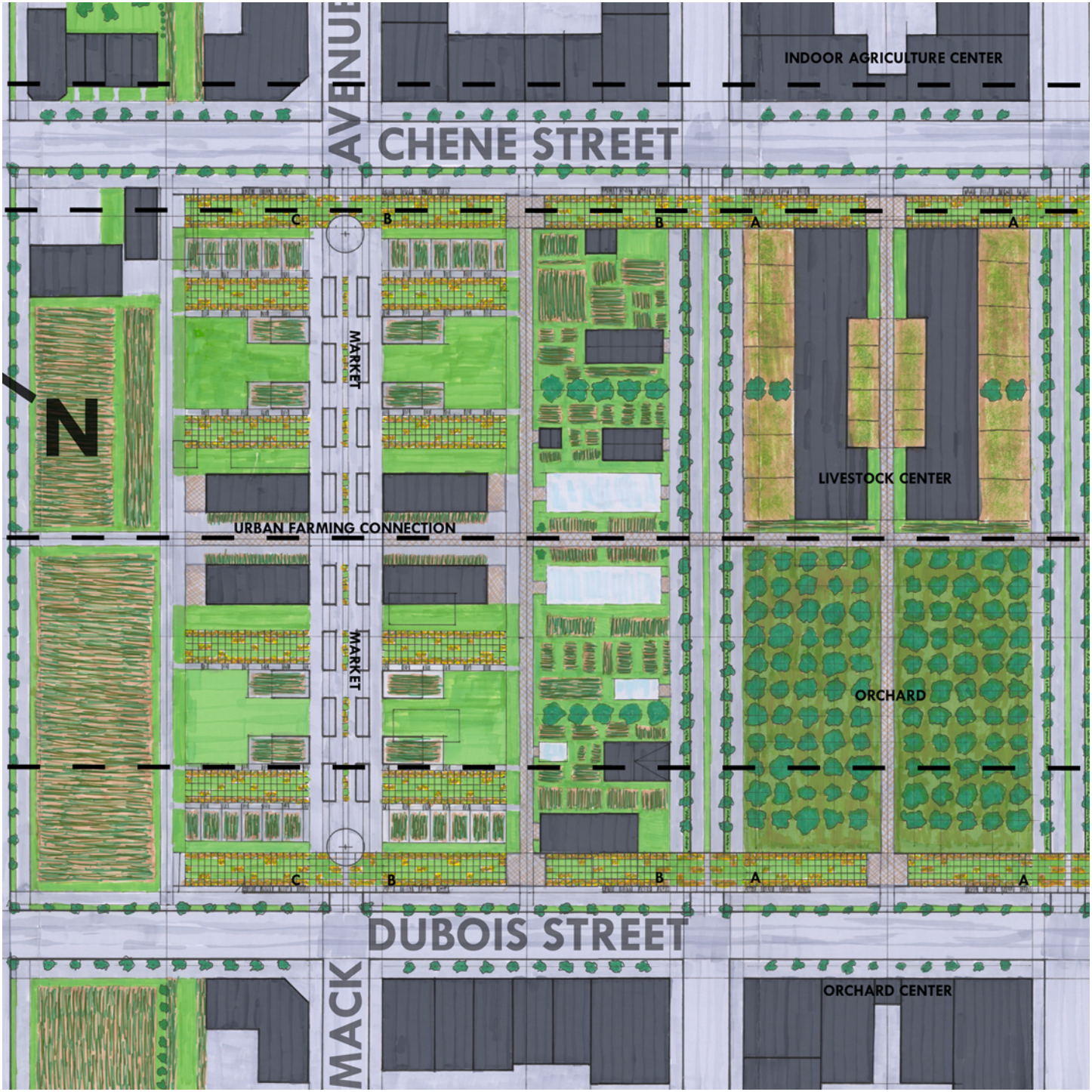
AVENUE
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INDOOR AGRICULTURE CENTER
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A
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MARKET
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LIVESTOCK CENTER
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DUBOIS STREET
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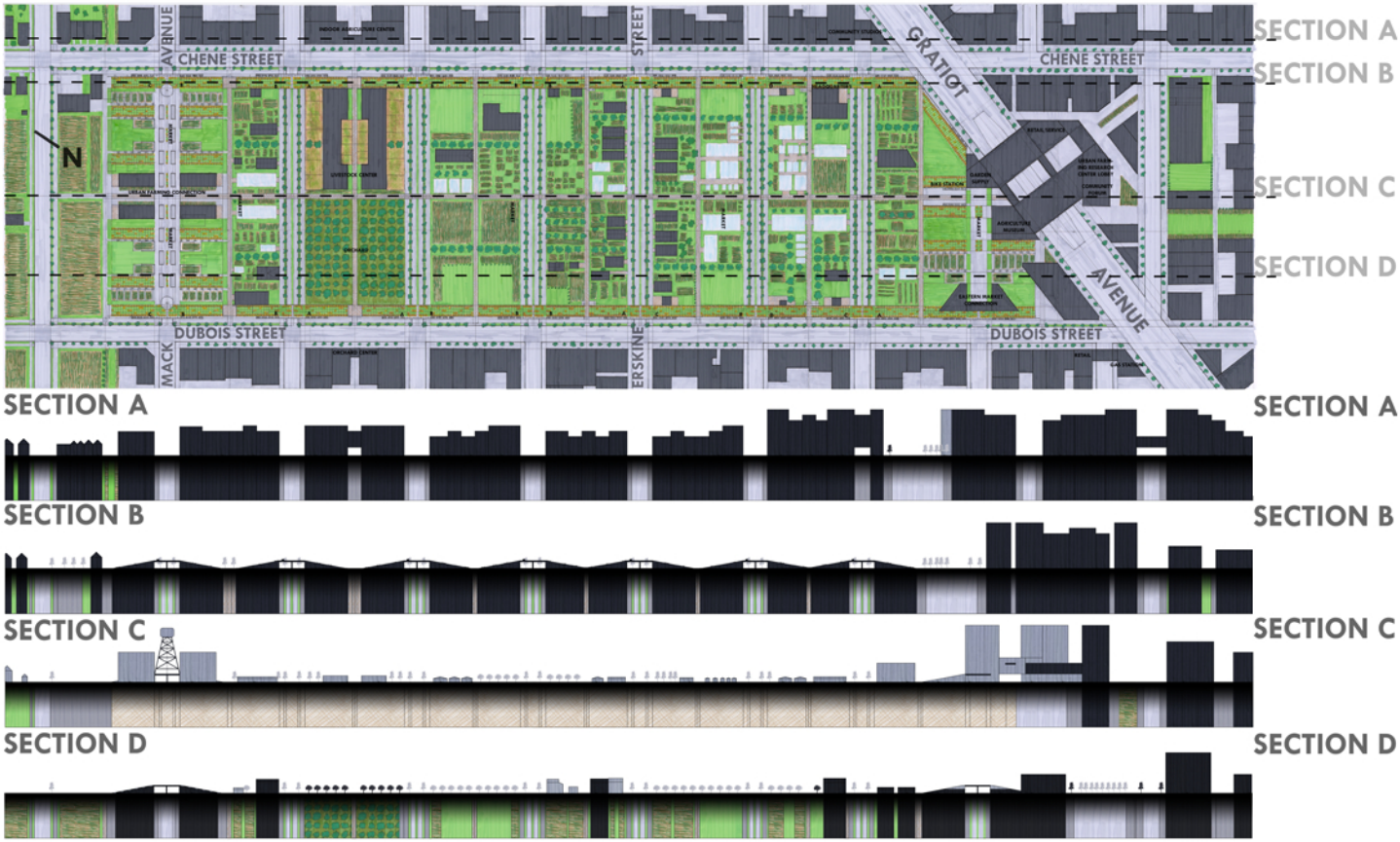
ORCHARD CENTER


SECTION A
SECTION B
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SECTION D
CHENE STREET
CHENE STREET
GRATIOT
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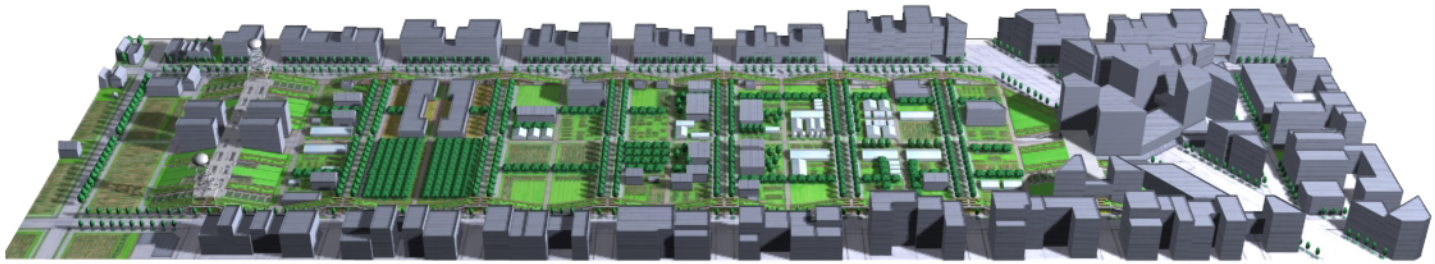

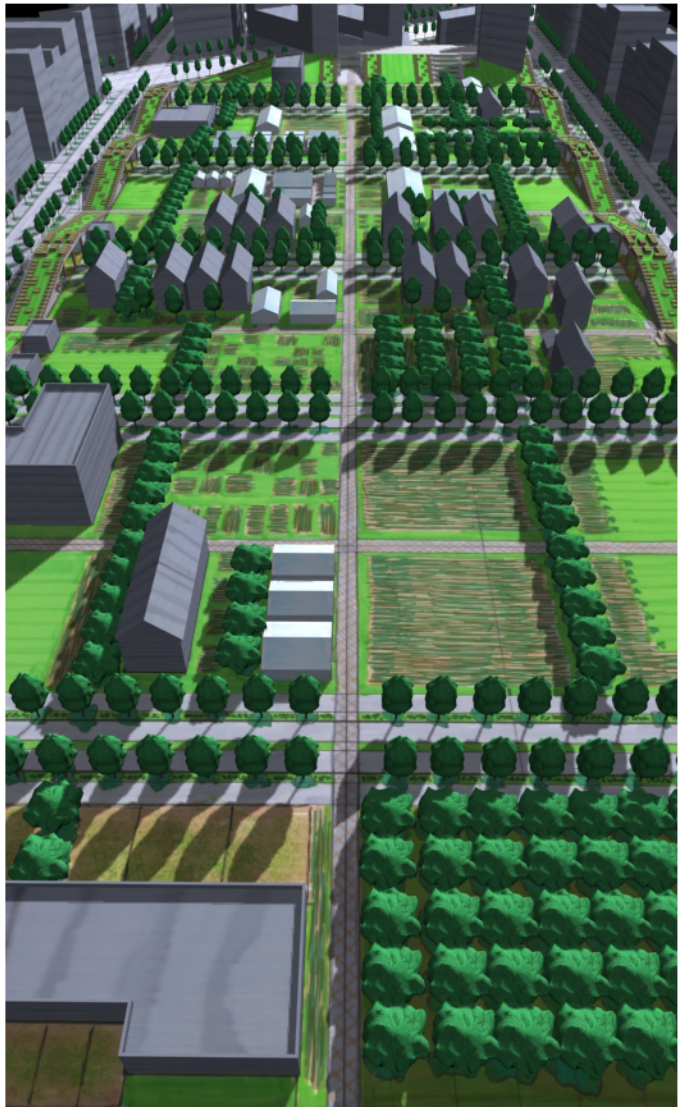

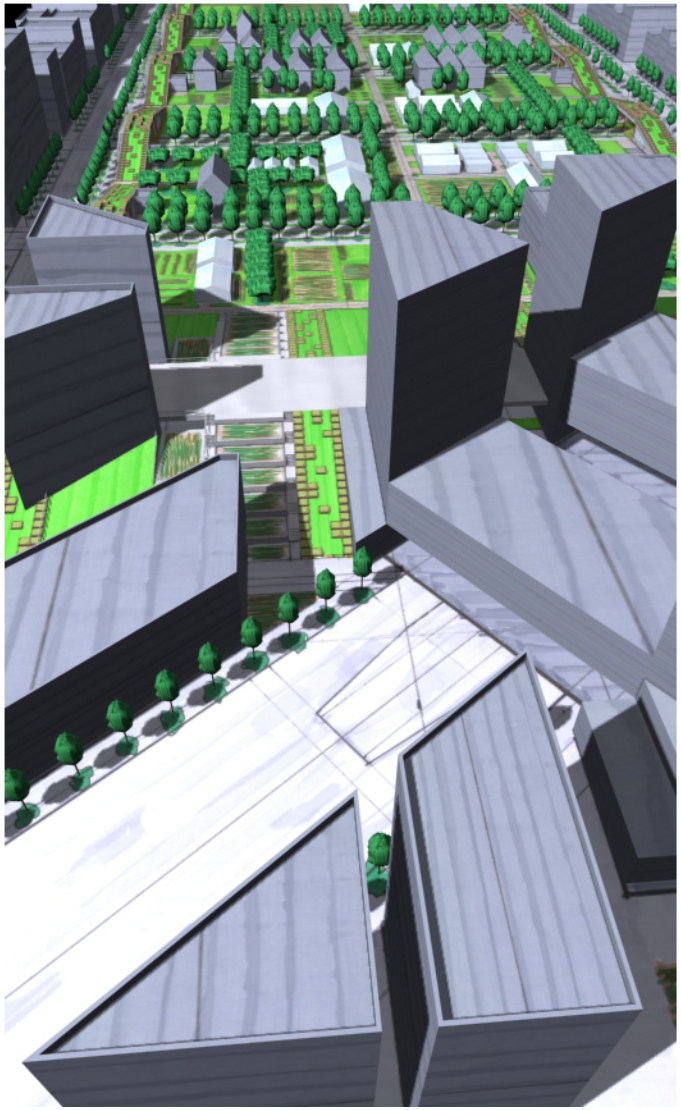

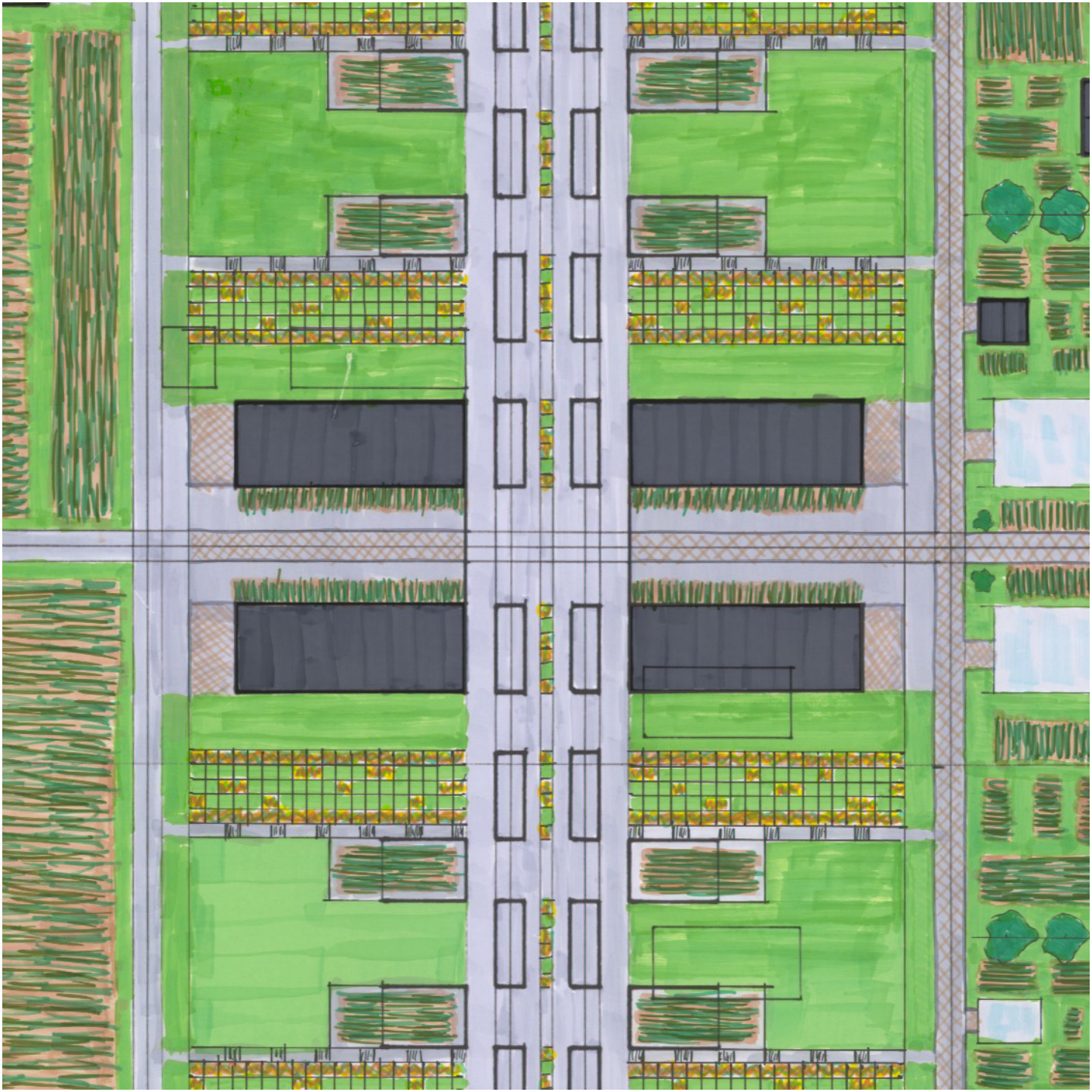

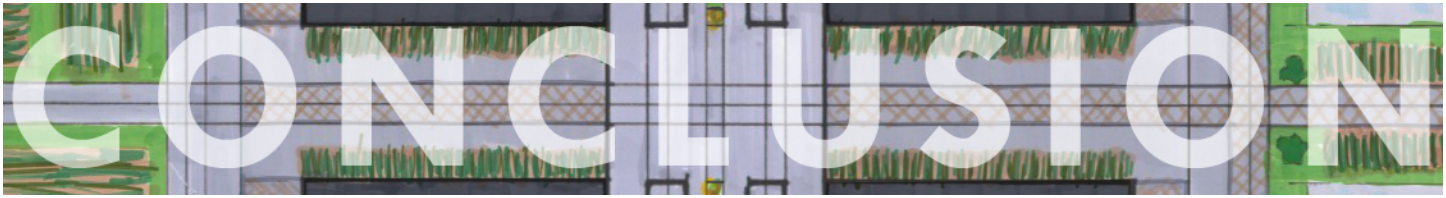

Through the development of this thesis the interconnectedness and complexity of the three spheres of sustainability has become even more apparent than through any reading or research done. Our ignorance of the social, economic and environmental aspects of our existence on this land has twisted and contorted our current urban form into sprawl developments that cause damage to every individual, wealthy or poor. This thesis sought to examine this processe affects on the city of Detroit and to try to find a way to create feedback loops that would use prosperity to create prosperity rather than degragation to degragation. The project can be broken down into three spheres of sustainability: the economic, provided by the finacial infusion of a new research institute; the social, created by the research institution's outreach into the community; and the environmental, which could best be described as the prior two combined with the insertion of the public transit hub. However, if each part of this project could be disected and examined one would see that every issue within it contains and affects all three spheres. The design interventions that attempted to respond to this reality created a system that would allow for responsible development without total control. It also proposed a system of form that would encode into a community a character and more importantly a purpose. The purpose being to explore urban farming's impact on how we respond to the three spheres of sustainability.

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