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LA 494LI - Senior Capstone Landscape Architecture Studio, Lawrence, Massachusetts

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University of Massachusetts, Amherst
Department of Landscape Architecture and Regional Planning
Senior Capstone Studio, Spring 2013

Landscape Planning and the Cultural Landscape: Greenway Explorations for Lawrence, MA



INSTRUCTORS:

Associate Professor Ethan Carr; Professor Robert Ryan
Samantha Anderson, Teaching Assistant

STUDENTS:

Joe Agrillo • Bill Black • Nicholas Brown • Phil Cassidy • Run Chen • Theodore Chesbro • Patrick Corey • Krystal Ford
Jay French • Thomas Frontera • Kathleen Haas • Tom Holt • Alex Jardin • Da Hee Lee • Henry Puza • Sean Regnier
Charles Richard • Joseph Agrillo • Eliza Rodrigs • Stephen Sanborn • Philip Schweiger • Patrick Sephton • Julia Sim

ACKNOWLEDGMENTS

This report presents the work of University of Massachusetts undergraduates in the Department of Landscape Architecture and Regional Planning. The studio benefited greatly from our partnership with Groundworks Lawrence. Project Director Brad Buschur provided needed information, access, and advice throughout. We are grateful to Brad, and to Groundworks Lawrence Executive Director Heather McMann, for making this collaboration happen.

At the Lawrence History Center, students were treated generously by archivists willing and able to share historic maps and other important data. We are grateful to the Center and to Executive Director Susan Grabski for this assistance. The students also benefited from their experience of the Lawrence Heritage State Park and by conversations with the staff there, who provided access to the interpretive displays, as well as a public venue for an exhibition of the work published here.

At the nearby Lowell National Historical Park, with its complementary history and industrial landscapes, Park Architect Chuck Parrott was generous with his time showing us the park and discussion landscape design by the National Park Service there since the 1970s.

We are grateful to all the other residents and officials in Lawrence who took the time to meet the students, see their work, and discuss the many aspects of Lawrence's history and public landscapes.



Chatting with neighborhood children while on a site visit

INTRODUCTION

The work presented here occurred in two phases. During the first phase the students worked in teams to produce large-scale greenway planning proposals for the city as a whole. These are presented first in the following pages, and are also described in greater detail in separate reports, also available through the University of Massachusetts Scholarworks website.

During the second phase of their work, students worked alone or in smaller teams to produce specific, project-scaled designs for interpretive public landscapes along the greenway corridors they described earlier. These design projects were inspired by the significant historical themes and events of the broader cultural landscape of the City of Lawrence. From labor history, to the many stories of immigration, to the industrial heritage of the historic mill works, students were inspired by the heritage of Lawrence to create designs for new public landscapes that convey and interpret aspects of this heritage for the residents of and visitors to Lawrence today.

Through their research, students were aware of the importance of Lawrence's history, but also of the social and demographic characteristics of the city today. In their designs, they hoped to make the city's heritage part of the living and ongoing cultural landscape of Lawrence, through the design of public landscapes that celebrate the present as well as the past.



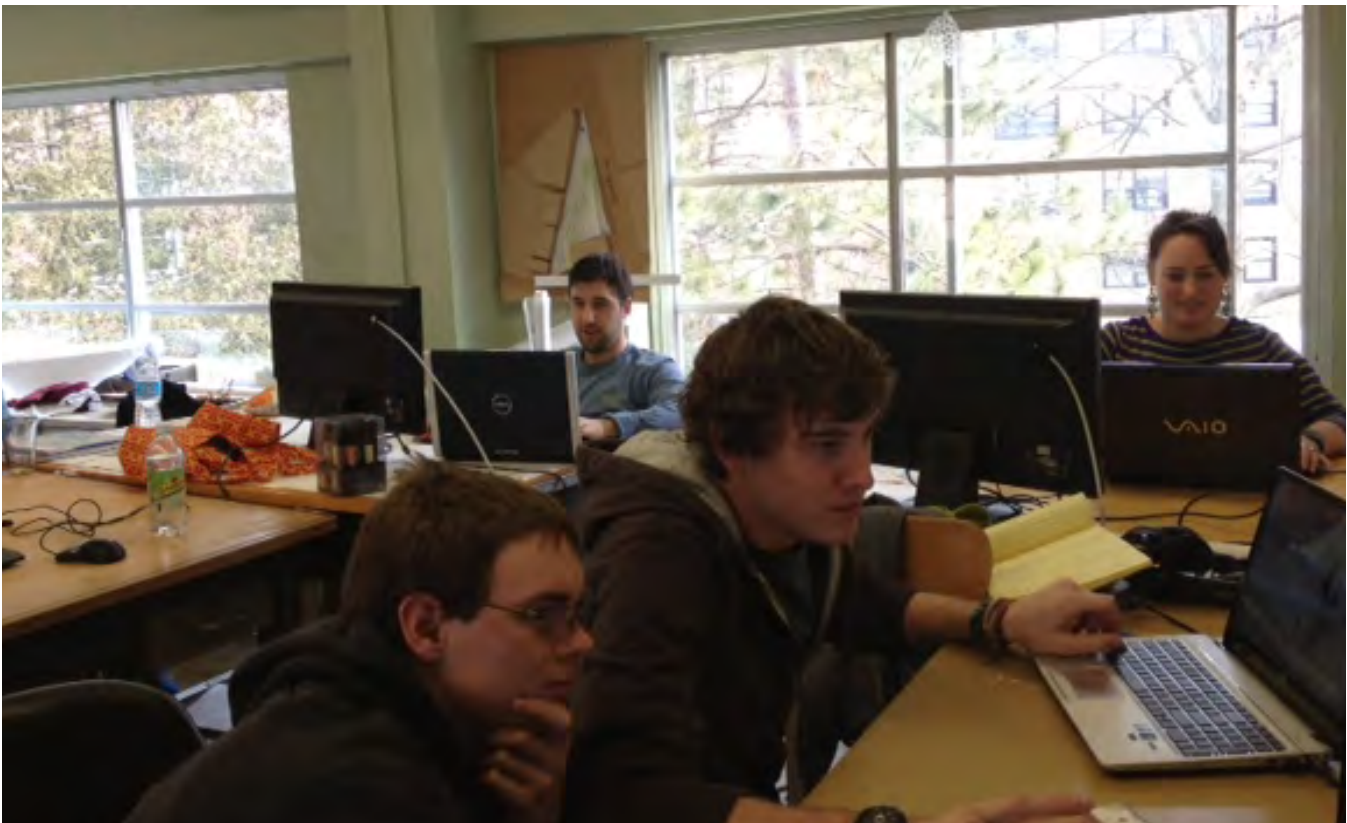
Students on a site visit

THE DESIGN STUDIO

This design studio was the capstone planning and design studio for graduating seniors in the landscape architecture program at UMass. Its purpose therefore was to review, integrate, and advance ideas and techniques from the entire experience students had during their undergraduate education at the University of Massachusetts.

During the first seven weeks, the course re-introduced large-scale open space planning in the form of "greenways." During the second seven weeks of the semester, students were asked to further research, analyze, and design individual sites associated with the larger greenway they studied and defined. Sites were selected as examples of "cultural landscapes," or landscapes that specific and significant cultural meanings and associations in addition to their other features and characteristics.

The project-scale designs presented here involve facilities for public access, strategies for interpreting the cultural significance of the site, site-specific art installations, and landscape features that expand on the historical narratives and significance of the sites. They include other design interventions intended to preserve, interpret, and expand the public's appreciation and experience of the specific places (and the greenway as a whole), especially in terms of the cultural associations and meanings that different groups and individuals may have for them.



Designing in the studio at UMass

CLIENTS

Groundworks Lawrence is an organization that sponsors environmental and open space improvements, healthy food access programs, youth education, employment initiatives, and community programming for the City of Lawrence.

UMass students of landscape architecture were asked to understand the mission of Groundworks Lawrence as fundamentally related to the practice of landscape architecture in the public realm. The organization and its accomplishments and ongoing efforts, such as the recently completed Spicket River Greenway, inspired and informed what students could hope to accomplish in their proposals for this studio.



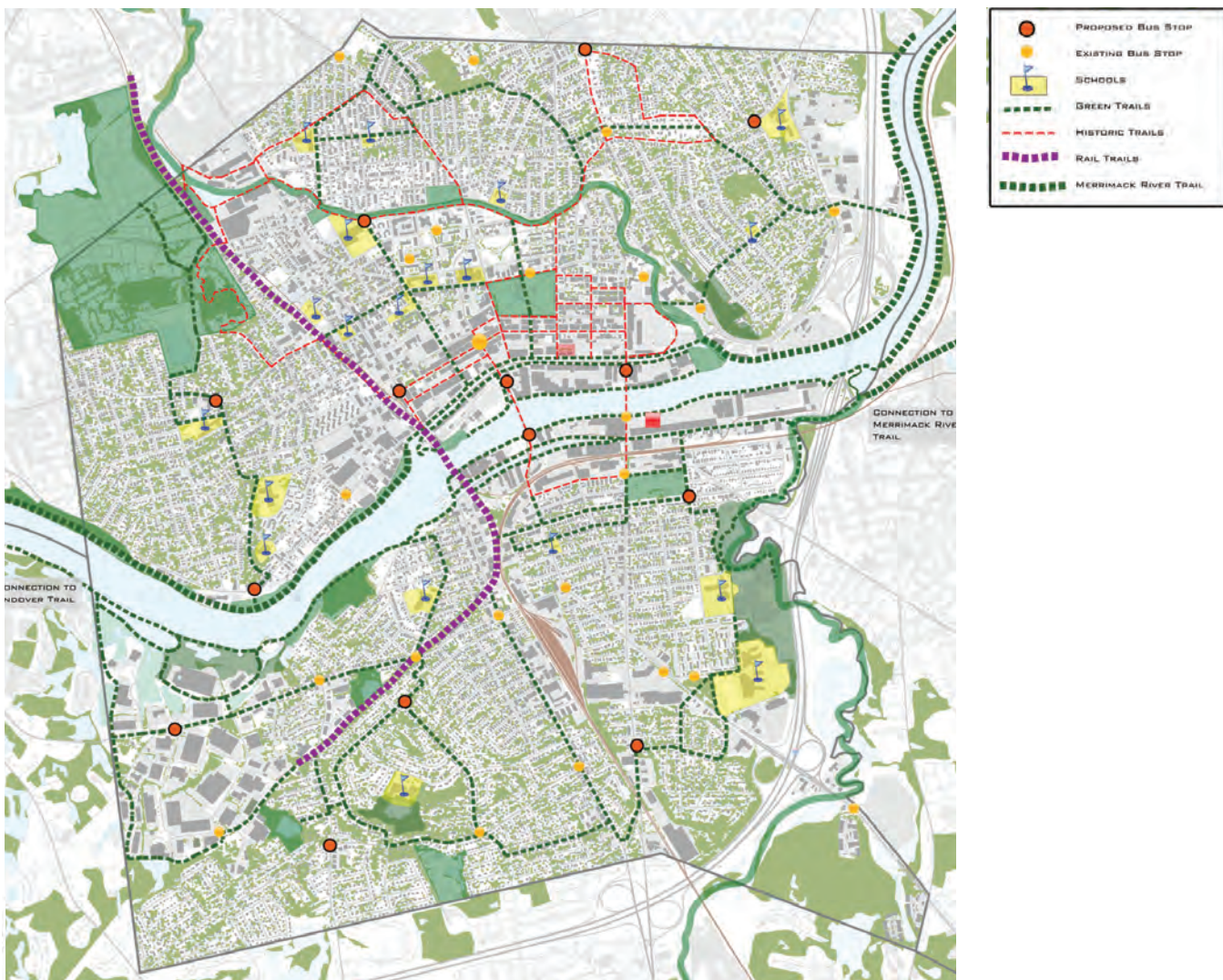
Site Introduction by Brad Buschur



Visiting the Lawrence Heritage State Park

TEAM 1: LEGACY GREENWAY

The Legacy Greenway in Lawrence Massachusetts is a multi-phase project that will be developed over a number of years. The Legacy Greenway Plan focuses on creating connections between important assets in Lawrence. Parks, open space, ecological corridors, schools, public transportation nodes, and historic sites are the key assets focused on in the Legacy Greenway. Connections are proposed through the use of bike paths, pedestrian trails, downtown historic tour trails, improved sidewalks, and 14 proposed bus stops. Circulation on the Legacy Greenway can be broken down into 4 dominant sections: Rail Trail, North Canal Walk, Spicket River, and Merrimack River. The rail trail connects the industrial park on the southwest side of Lawrence north over the Merrimack River to the existing Rail Trail in Methuen. Proposed draining of the canal to create an artificial wetland would improve flood control as well as create an important connection between the Rail Trail and Spicket River. The Spicket River Greenway is currently under construction and is nearly finished. Only a small section south from the Dr. Nina Scarito Park the mouth of the Spicket River remains to be constructed. Connecting the Legacy Greenway to surrounding towns is critical and the Merrimack River corridor is key in achieving this goal. On the west side of the town the Andover Trail abuts the Lawrence border. Creating this connection would connect the Legacy Greenway to the Bay Circuit Trail. On the eastern border of Lawrence the Merrimack River Bikeway connects to the Legacy Greenway.



TEAM 2: LAWRENCE GREENWAY PLAN



On a regional level, this greenway looks to make connections to the Bay Circuit Trail, Andover Bike Trail, and the Methuen Rail Trail. Highlighting alternative modes of travel and regional bus routes will help join Lawrence with surrounding cities and towns. The regional greenway plan also looks to make as many connections as possible to green spaces immediately outside of Lawrence including the Bird Sanctuary in Methuen, the collection of conservation land in Andover, and Lake Cochichewick in North Andover.

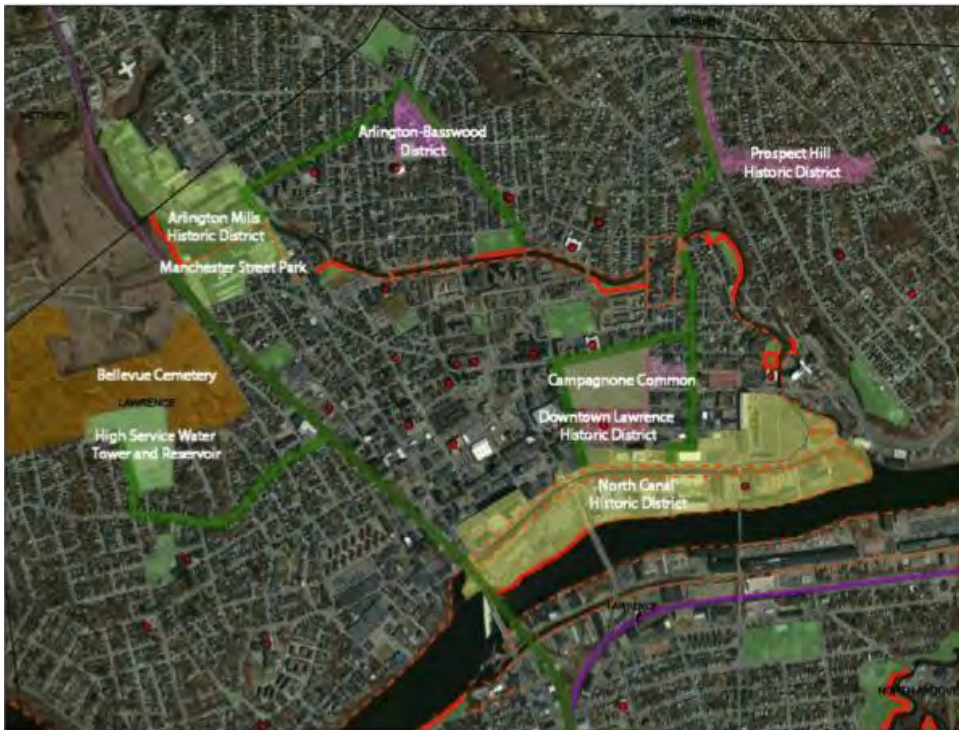
Zooming into Lawrence, two major corridors follow the rail line and the Merrimack River. This greenway plan will also provide access to the ecological corridor that runs through the Coyne, Costello, Shawsheen, and Den Rock Parks. The rail corridor begins at the Great Stone Dam and ends at the mouth of the Spicket River. The Spicket River corridor begins at the Merrimack River, meanders through Northern Lawrence, and terminates at the Manchester Street park.



TEAM 3: A GREENWAY FOR LAWRENCE



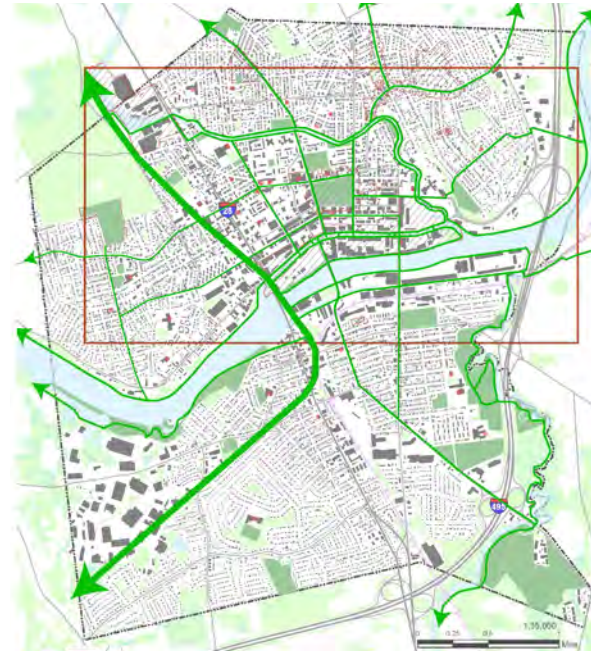
This greenway plan uses the Merrimack, Spicket, and Shawsheen rivers as inspiration. Through these three rivers, two pedestrian greenway loops are proposed, one in north Lawrence and one in South Lawrence. On a regional scale, major existing open spaces and existing rail trails and trail systems were connected. At the city scale we wanted to create greenways that were extensions of these regional connections that would move people from the north and south through the city's downtown and eventually to the Merrimack River. We made strong connections to the Spicket River as well as improving existing streets that move through various important regions throughout the city.



TEAM 4: VERDE VISIÓN: A GREENER LAWRENCE

The two major proposed corridors follow the rail line and the Merrimack River. This greenway plan will also provide access to the ecological corridor that runs through Coyne, Costello, Shawsheen, and Den Rock Park. The rail corridor begins at the Great Stone Dam and ends at the mouth of the Spicket River. The Spicket River corridor begins at the Merrimack River, meanders through Northern Lawrence, and terminates at the Manchester Street park. One of the Greenway's main arteries is the vacant rail line which has high potential to become a wide rail trail corridor for the greenway. This plan could include plant rejuvenation and recreation installment along the corridor. These visual and physical amenities will usher in the community of Lawrence to re-activate the abandoned rail line for recreational use. Providing access to the river edges will provide opportunities for the community to learn about the natural ecology of Lawrence, while transforming the city center into a close, well knit, sustainable community will begin to rejuvenate Lawrence's inner city. Improved city streets will bring up property values, and more vegetation within a dense city has proved to help mitigate air pollution and increase the overall health of the city.

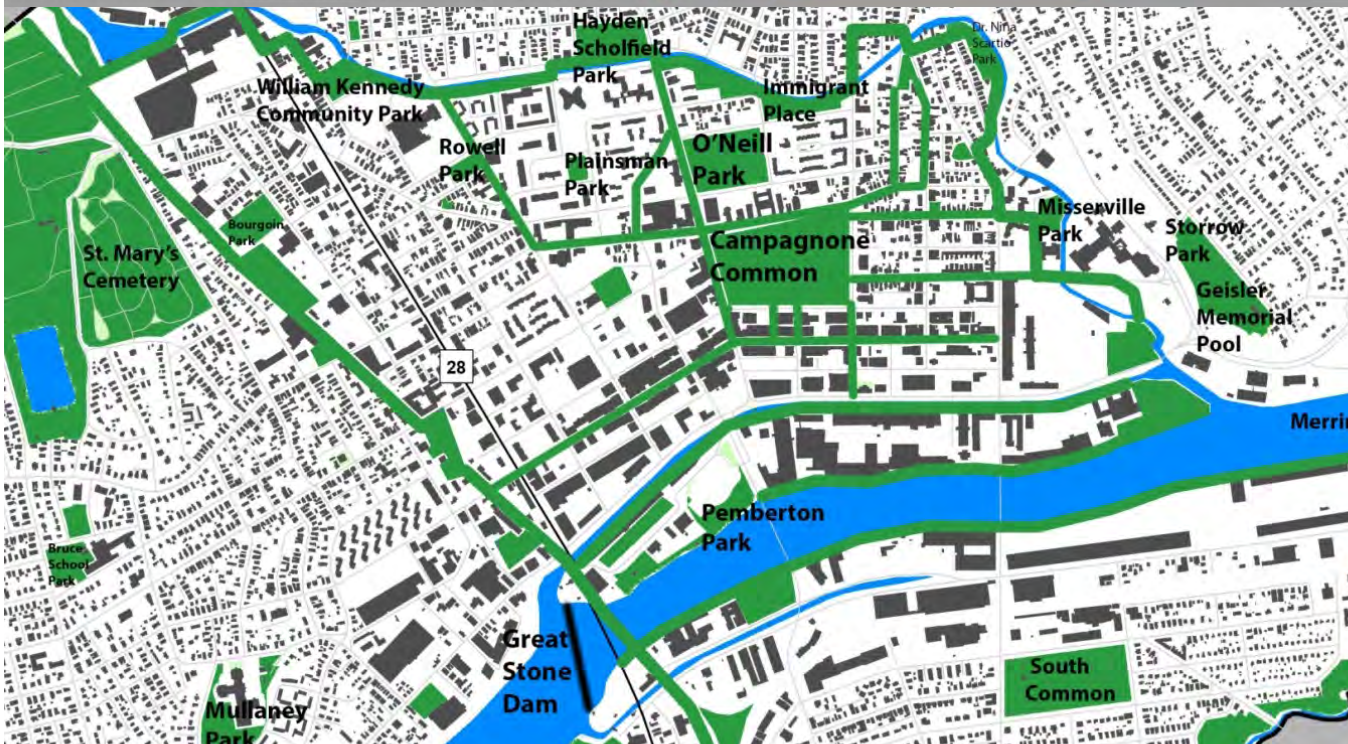
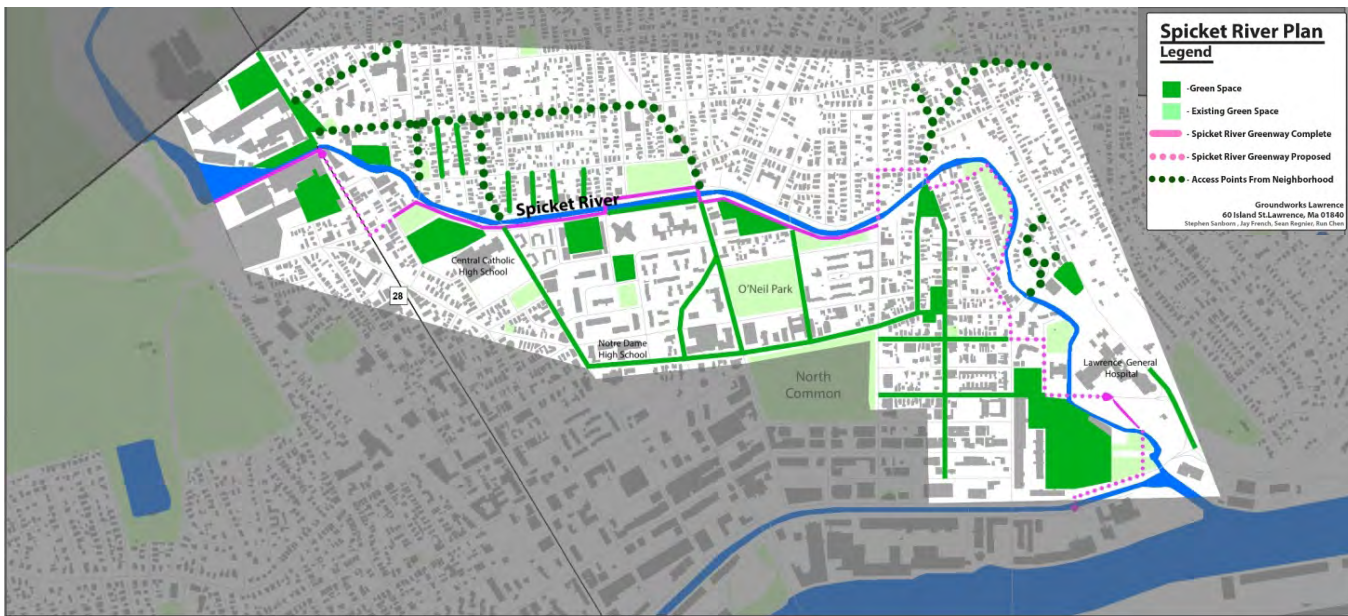
Finally, connecting to the outer portions of Lawrence through secondary trails and street improvements will unite the inner city with the connections outside of the Lawrence boundary. These connections will run from the inner city sector through neighborhoods around Lawrence and connect with important trails, potential trails, and high potential non-motorized corridors outside of the city.



TEAM 5: GREENWAY LAWRENCE: FOCUS ON SPICKET RIVER CORRIDOR

Lawrence's rich industrial history stems from the Merrimack River, which provided opportunity for hydropower to operate the mills. However, over time the importance of this has been forgotten and the river and its waterways neglected and polluted. This design looks to connect people back to the river by using the historic value of the water systems to engage and educate the people about the significance it holds.

In order to achieve this, we needed to create a greenway system that will connect the important features in the city to the water system, thus bringing more resident attention to the water. This greenway system uses three main corridors in Lawrence to form a green loop with secondary connections within the loop connecting important and well used areas of Lawrence. The three main corridors implemented are the Spicket River corridor, the Rail Trail corridor, and the Canal/Merrimack River corridor: these three will join together providing a vibrant pedestrian circulation system that will be able to draw people from one area to the other. In time the greenway plan will help clean the Spicket River, slow down and mediated the flooding problem, create an attractive access to the Spicket River Greenway, and bring life and business back to the empty mills.



Student Projects:



Team 1

Joe Agrillo
Tom Holt
Charles Richard
Julia Sim
David Ross

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Team 2

Bill Black
Patrick Corey
Alex Jardin
Krystal Ford
Patrick Sephton

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Team 3

Nic Brown
Henry Puza
Ted Chesbro
Da Hee Lee

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Team 4

Eliza Rodrigs
Phil Cassidy
Tom Frontera
Kathleen Haas
Philip Schweiger

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Team 5

Steve Sanborn
Jay French
Sean Reginer
Run Chen

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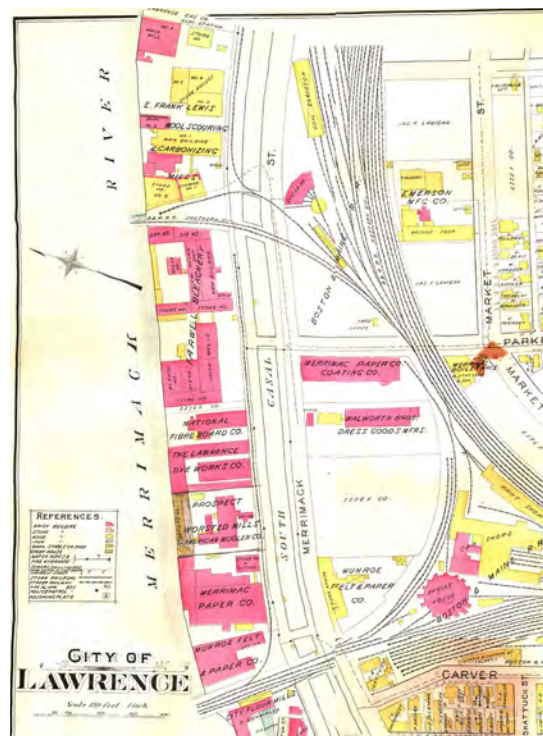
Center Point Lawrence

Joe Agrillo, Tom Holt, Charles Richard

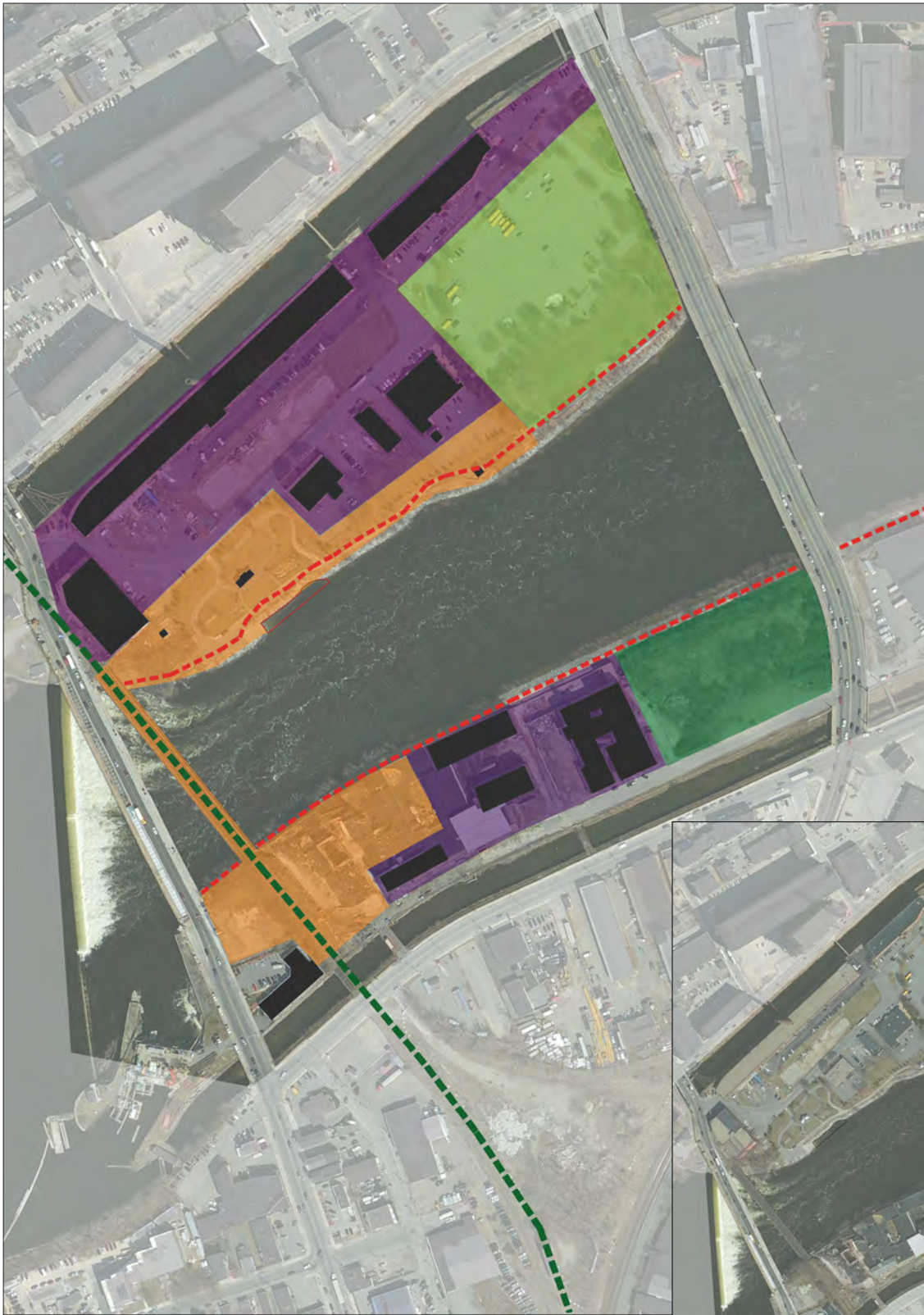
Historically, the Merrimack River corridor has functioned as a major transportation conduit and habitat source for life in the region. Land animals live by and travel along its shores, fish migrate and breed throughout its waters, and birds use it for migration and nesting purposes. Humans too have utilized the river for its resources and transportation potential, making it an obvious choice as a power source for the many mills the Essex Company built in their rapid industrial development of Lawrence. This was accomplished through the construction of the Great Stone Dam, an engineering marvel constructed to power the industrialized city that Lawrence was built for.

The site we have chosen is in the center of Lawrence, and the center of the town's history. The Great Stone Dam, Merrimack River, and Industrial Mill buildings all incorporated within the context of our site providing access to Lawrence's historical elements. When manufacturing moved overseas, Lawrence saw a period of deindustrialization and disinvestment. With many mills out of service, it is now possible to decongest and enhance Lawrence through site redevelopment and repurposing. In addition to all the historical features that still stand within our site, we are adding new additions to include elements of 21st century Lawrence including park and habitat space, athletic fields, community gardens, and greenway connections.

Our site is special in terms of its location and use, in that it unites both north and south Lawrence communities. As part of our design intention we are working to create a multi use area that incorporates the variety of features that describe Lawrence; what it started from, what it became, and where it stands today. An interpretive trail will loop through the entire site giving a visual and physical experience of what it means to be part of Lawrence.



The Great Stone Dam (Top Right) is literally what enabled Lawrence to become the industrial powerhouse it once was. Even today it is a tremendous sight. The Photo on the bottom right is a historical map of our site on the Southern side of the Merrimack. Many more buildings occupied the site historically, while only two remain in the present day.



The image on the right highlights the extent of our site. Encompassing both sides of the river, our site not only unites North and South Lawrence, but is able to provide a series of landscape experiences, as one can observe in the concept diagram above on the left side. Orange represents complimentary park spaces embracing the river and the Great Stone Dam. Purple represents mixed use development. Dark green represents constructed habitat, while light green represents multi purpose open athletic/event space.



In this illustrative master plan, the spaces come to life. One can interpret the different experiences offered throughout the site. The path system creates a one mile loop that can be completed without ever having to cross a street. Our final proposal fosters and embraces the vibrancy and diversity of Lawrence and its citizens.



In this perspective is the typical handling of the section of Merrimack River Trail as it runs through our site. The Merrimack River Trail is accessible to pedestrians and bicyclists. The Merrimack River Trail is an important regional connection. It follows the Merrimack River its entire 50 mile course through Massachusetts.



On the southern side of the river, an observation point on the Merrimack River Trail provides breathtaking views of the dam, and takes visitors right to the water's edge.



This section is cut between the Merrimack River and the South Canal looking East. It cuts through the Merrimack River Trail, a terraced park space, and the former Merrimack Paper Company building which we've proposed as mixed use: commercial/residential.



The section above cuts West to East through the Southern side of the site, and looks North. Starting on the left it shows the entrance to our site from the proposed rail trail, the terraced park space overlooking the river and dam, the Mixed use commercial residential area, and finally the constructed habitat. In the background is the skyline visible across the river.



This section is cut between the Merrimack River and the South Canal looking West. It cuts through the South Canal, South Canal Street, a parking lot, a residential building, a woonerf, another residential building, the Merrimack River Trail, and the Merrimack River.

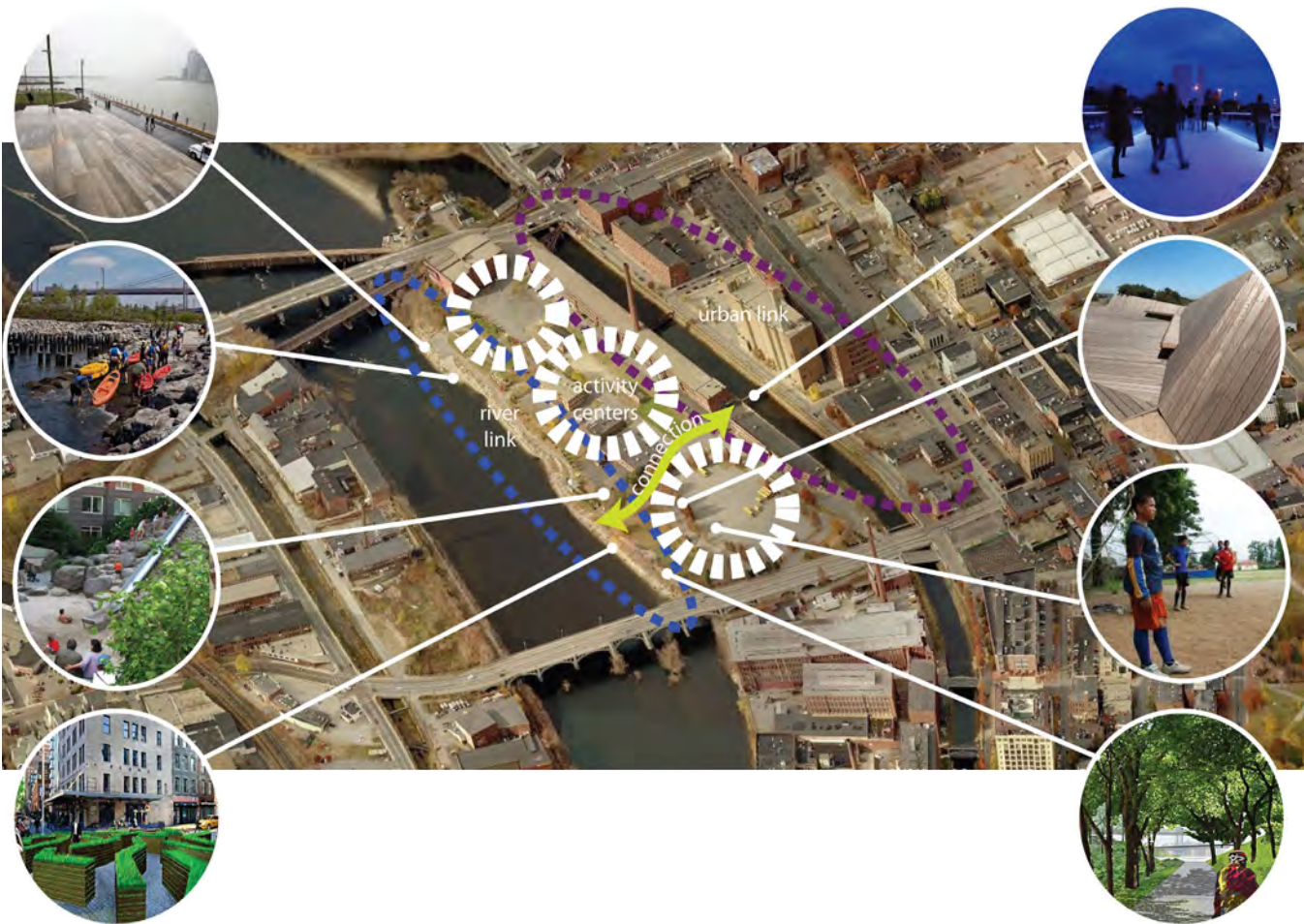


Lawrence's New Cultural Center: A Modern Day Pleasure Garden

Julia Sim & David Ross



Conceptually, this design segments the industrial island into a physical timeline of the city's history, using major roadways to designate pre-industrial, industrial, and post-industrial sequentially themed sections.



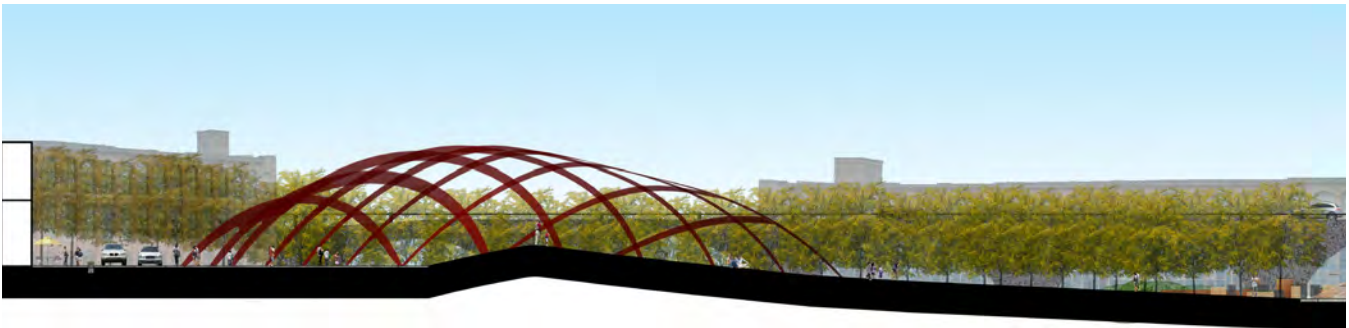
We've decided to focus on the post-industrial site. The layout of the site has strong edges in the old mill buildings to the northern edge and the Merrimack River to the southern. The mills hold a strong connection with the downtown area of Lawrence while the river edge provides a source for recreation and ecology. There is also important historical value.

Our intentions were to create a new cultural center for the city and a new take on the post-industrial park. Our goal is not to create an escape from the city, but one within the city. This park will be a new type of landscape for Lawrence, a place where people come with the intentions of relaxing, socializing and recreating while celebrating their urban surroundings.

The park is a sequence of dramatic spaces that allow visitors a memorable and enjoyable experience. Each space holds a unique characteristics that provides its visitors with a different experience. It is planned as a highly functional and usable space, while providing the citizens of Lawrence with places to do activities they love.

Suitable for all ages, the lower east portion of the site is constructed around a lively play space where kids can be free to explore and be active. The middle of the park holds an open space supported by landform to create an amphitheater space for large events. Finally towards the western edge is a large angled hill that allows for activities throughout the entire year.





Section 1 demonstrates the urban connections to the play structures. This also shows the Vale which is a large steel structure that represents the textile past of Lawrence.



The renovation made in and around the historic mill buildings will activate the area creating an urban link to the city of Lawrence.



This section demonstrates the plaza by the bridge which has new buildings being incorporated into it for restaurants and commercial services. This also demonstrates the vale and the glass tower which are representative of Lawrence's historic past.



The waterfront is an incredibly important area for Lawrence, using the Vale to connect to the river and create an improved boat access, we have allowed for a more active waterfront.



The play space is a very active community area using many different types of play structures. It will be one of the highlights of this park.

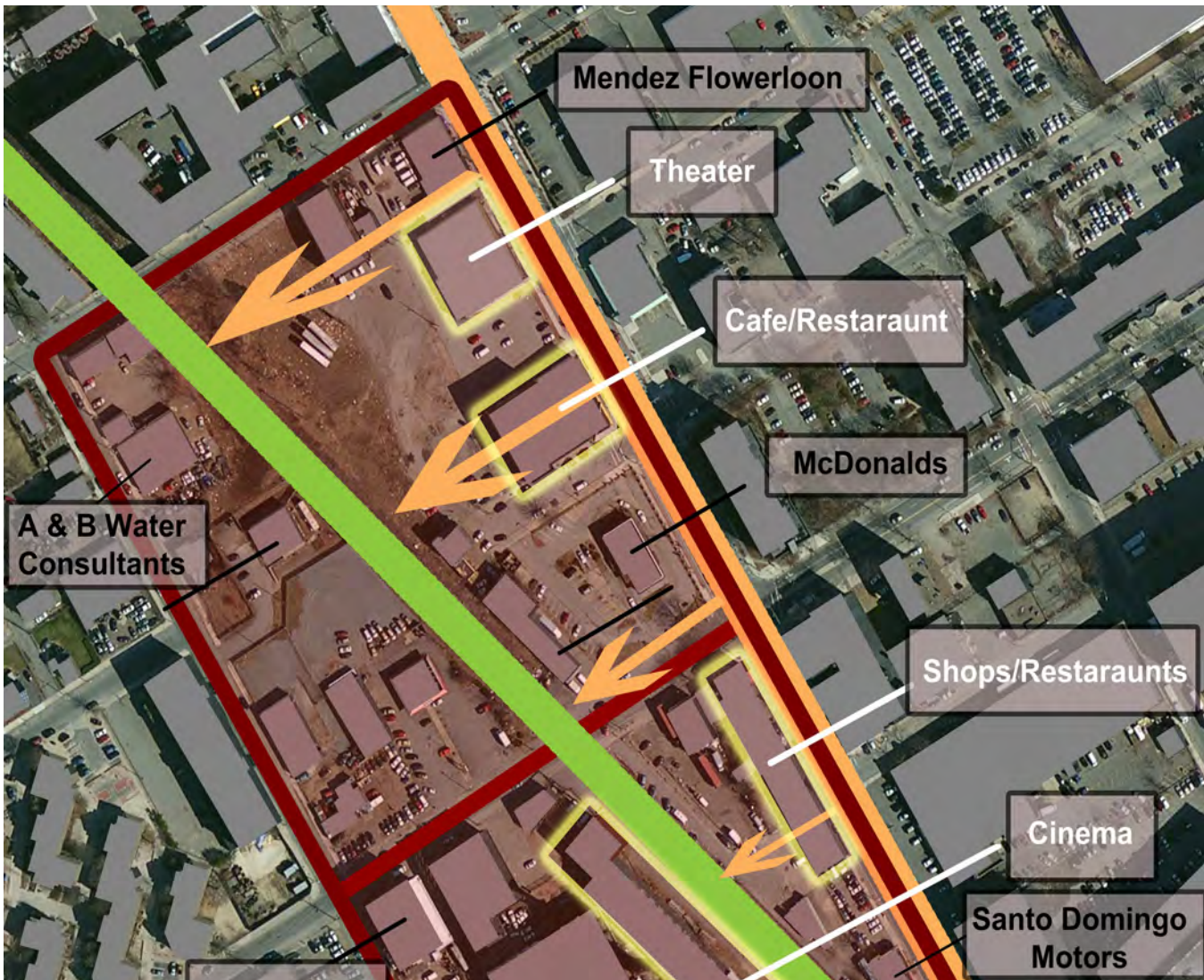
The Arlington Mills: Past, Present, and Future

Patrick Corey & Bill Black

The Arlington Mill site is a major connecting point for the Spicket River Greenway and the Rail Corridor. Not only does it allow us to interpret the history of the mills but also highlight the current industries in the area. We wanted to create an interpretive landscape that connects people to the unique features as well as the current parks of Lawrence including the Manchester Street Park.

Polartec LLC, located on the site, is a leading manufacturer of polar fleeces and represents the type of business that can be very successful in the city of Lawrence. This industry is a major asset to the city that goes relatively unnoticed by residents because of its location on the outskirts of town, behind the deteriorating mill buildings of the former Arlington Mills.

These mills, although impressive buildings, are currently underutilized. They opened in 1865 and quickly became one of the largest worsted mills in the world, making Lawrence national recognized a manufacturing powerhouse. This design looks to make this site an interpretive landscape that represents the history of the site and connects to the ongoing industrial future of Lawrence by redeveloping the buildings and the surrounding area.



The site itself is in a prime location, an area where the Spicket River Greenway would connect to a proposed rail trail. Lawrence itself is a young, vibrant city, and the youth density is at its highest in this area raising its significance. The connection point of these two trails serves as a central gathering spot connecting people together. Our goal for this area is to improve upon the already existing components of Manchester Street Park. This will include defining the entrance to the park through signage and proper maintenance, creating improved community gardens, outdoor market, and multiuse areas. The playground and open field provide great recreational opportunities for the city's youth. Movies will be projected on the façade of the mill building across Stevens pond to create nighttime events, further raising historical awareness and importance. All of these improvements will help to bring the community together.



Improvements to Manchester Street Park include extending the park to the street for visibility, multi purpose areas for farmer's markets, and a series of community gardens. The mills were redeveloped into residential and commercial uses to draw people back into the area.



Running adjacent to the Spicket River Greenway, a vegetative swale will collect the excess rainwater from the site. A boardwalk constructed next to Steven's Pond will allow for users of the park to interact with one of Lawrence's best and most hidden water features.



Extending Manchester Street Park to the street will allow pedestrians and vehicles to be more aware of the parks existence and therefore be more likely to visit. A series of community gardens will also be implemented to provide an area for community engagement,



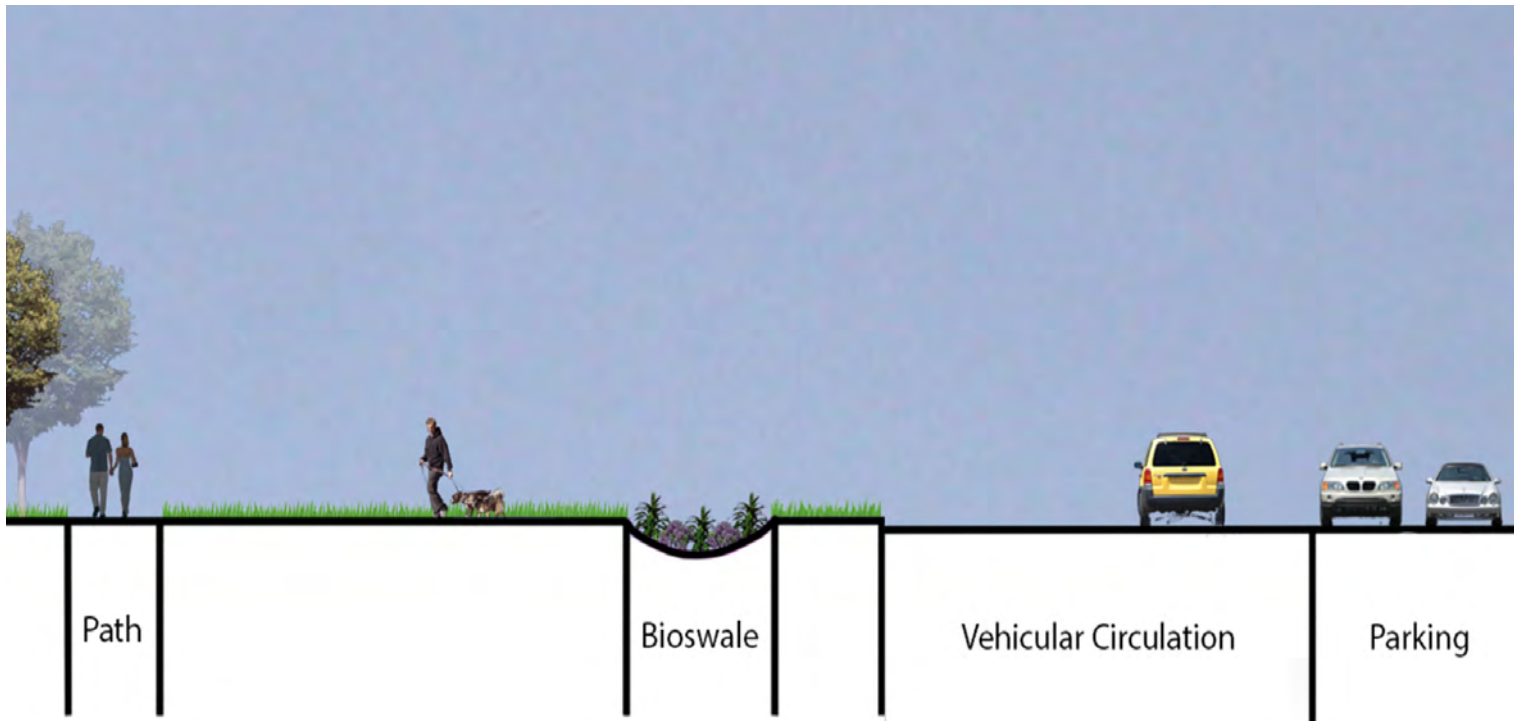
The extension of Manchester Street Park will include a series of community gardens to promote sustainability and community engagement. A swale will also run adjacent to the parking lot to manage the excess rainwater from the site.



Projecting movies on the facade of the mill building will create nighttime events and promote community interaction within Lawrence.

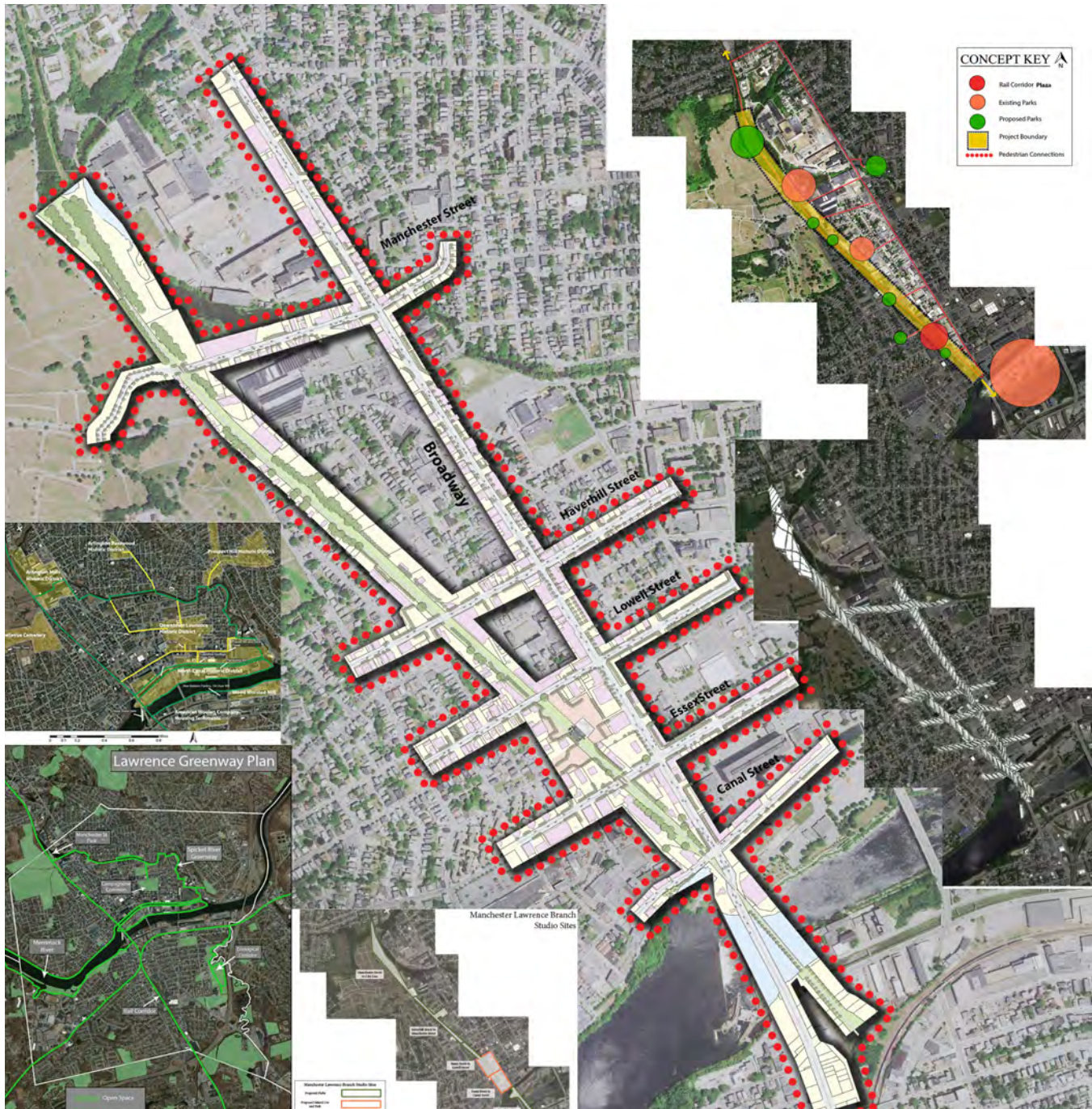


The abandoned mill building will become a main attraction with the addition of a unique restaurant that overlooks Stevens Ponds and relates back to the history of the mills.



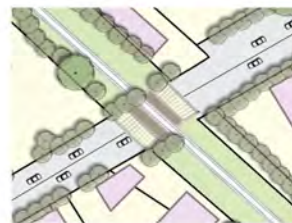
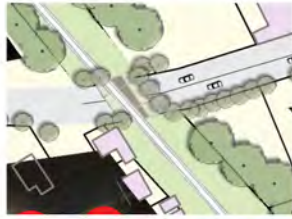
Lawrence Rail Trail: Weaving through the Streets and History

Alexander Jardin

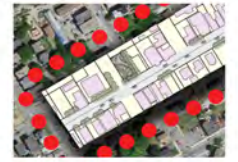


The former railroad track is a long corridor running from north to south in Lawrence, MA. It crosses and weaves together a number of streets connecting historic districts as well as a former corridor of entertainment, Broadway Street. These streets and corridors have the potential to create a fabric that binds together the city resident while also recalling the city's industrial history and development in regards to textiles. A number of open spaces, lots, and existing public parks can all be easily connected through this woven urban thread.

Trail Weaving Intersections



Oxford Street Park



Manchester Street Bridge



Lowell - Essex Street Urban Plaza



To make connections to the industrial history of Lawrence, each space uses ideas drawn from the people, equipment, and work that typically happening in factory brick walls. Rather than buying or producing new materials for construction, on site materials such as brick, iron gears, and rail ties and spikes are reused.

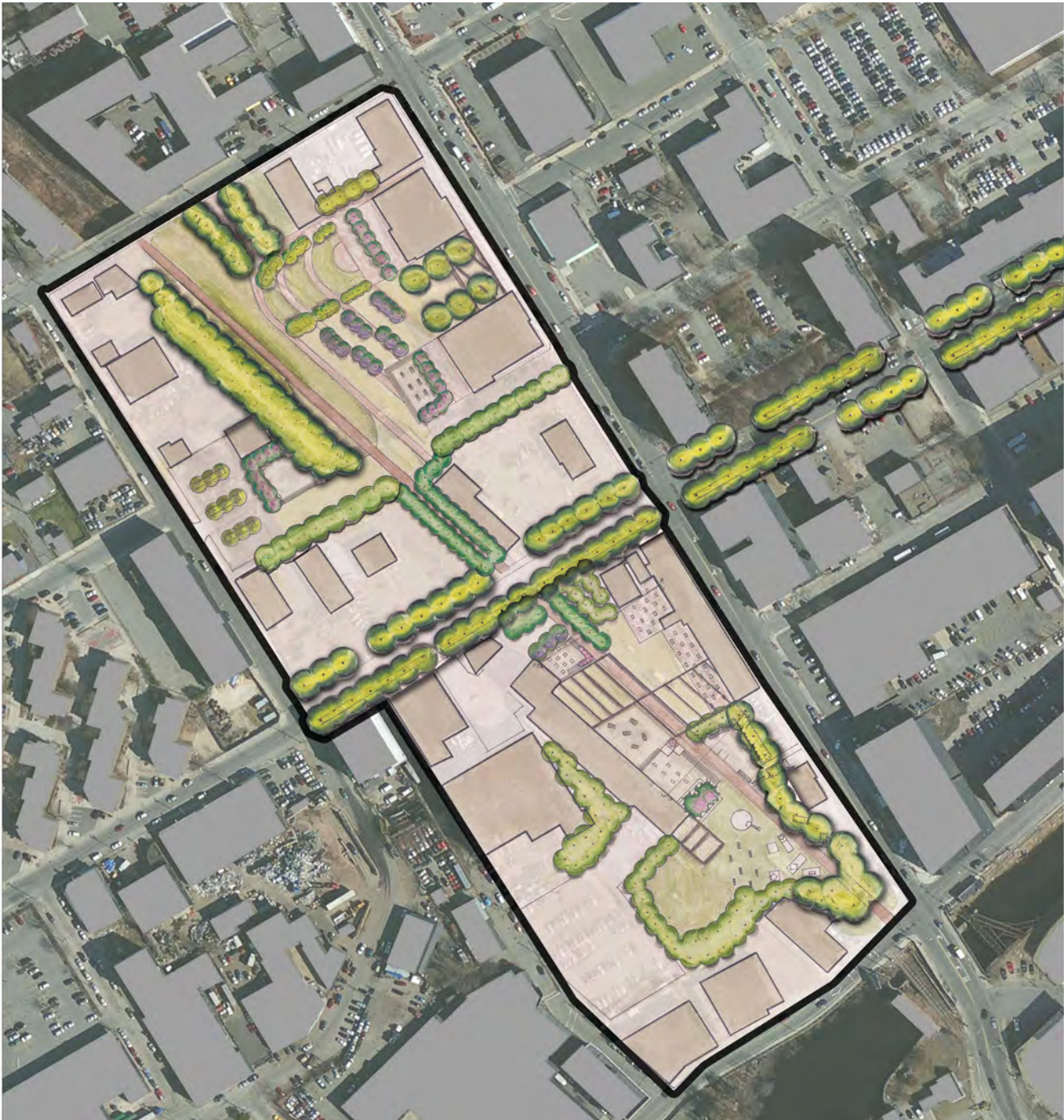
Revitalizing Theater Row

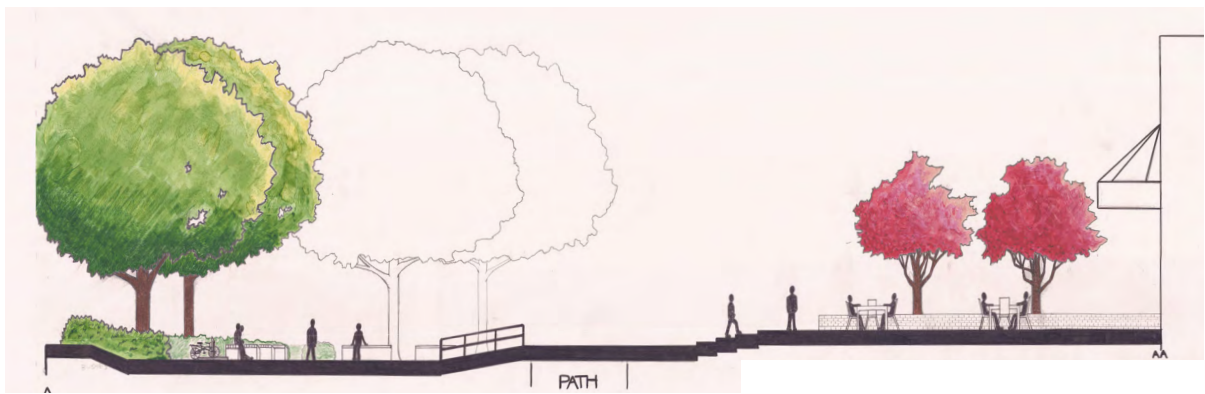
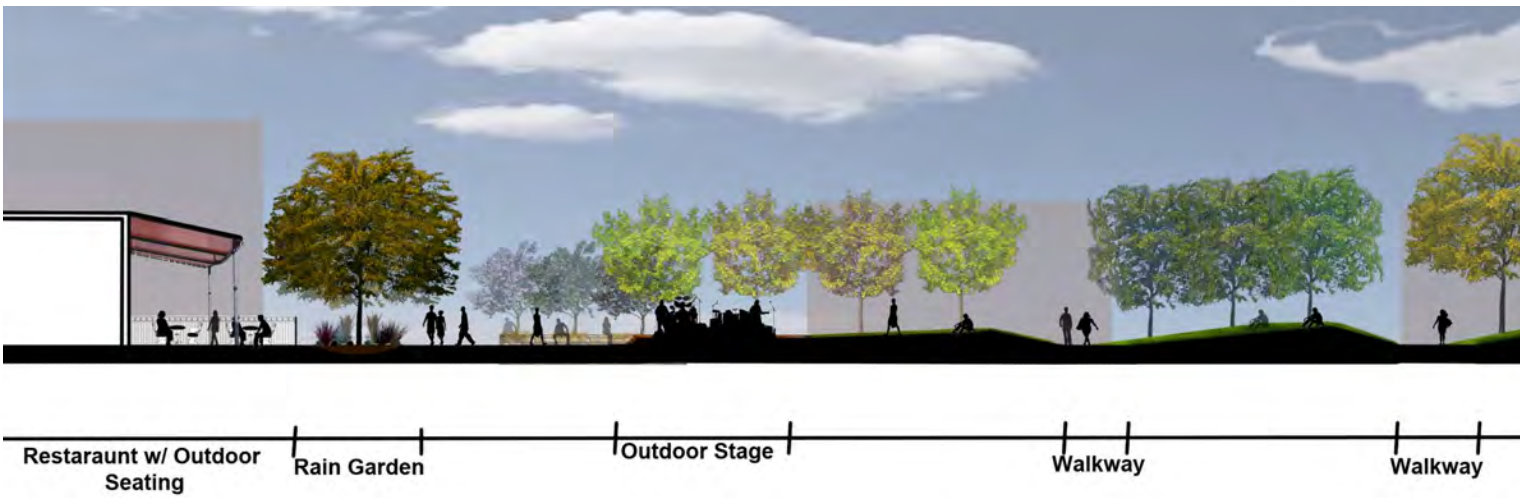
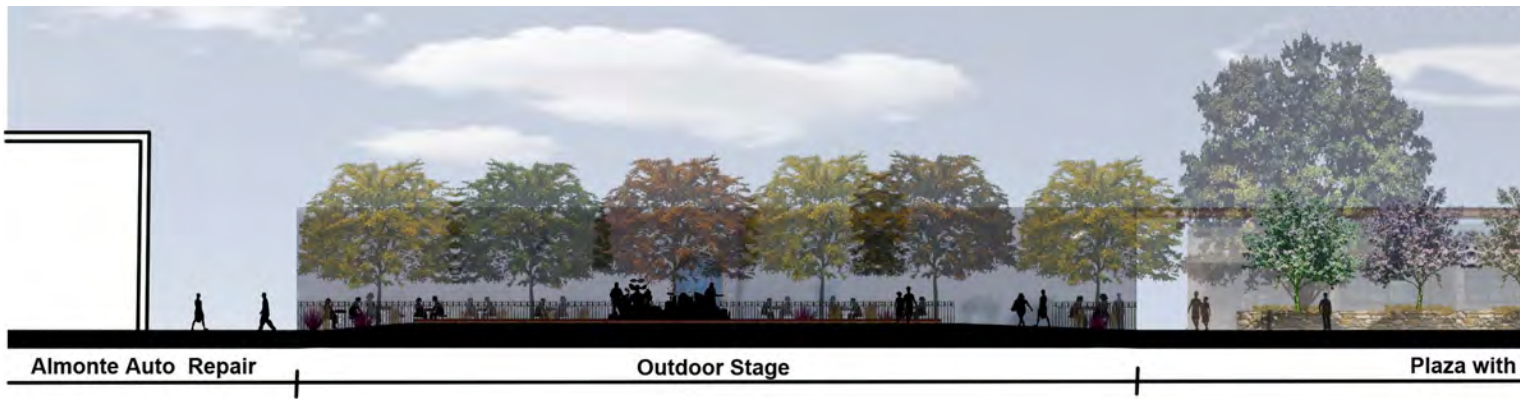
Patrick Sephton and Krystal Ford

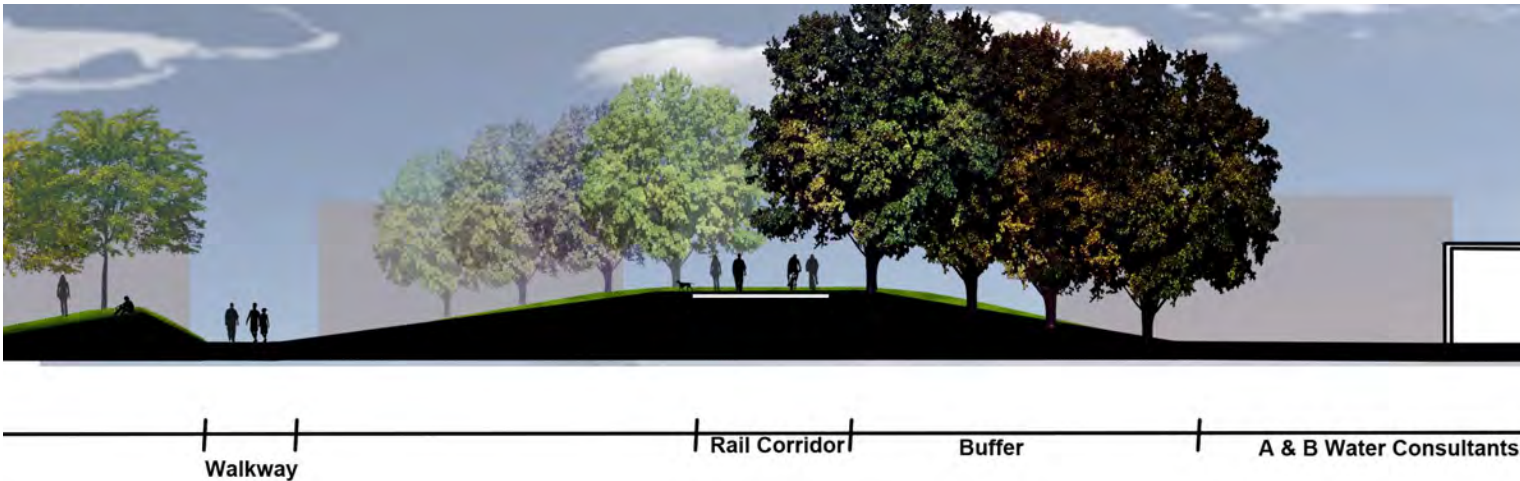
Lawrence is a city full of diversity, life and vibrancy. It has been this way since it was first established. Known as immigrant city, Lawrence is home to many different cultures. Currently it is a young city, with the majority of its population being under the age of 30. In the 1920's Lawrence's main area of entertainment was Broadway Street. It was known as "Theater Row". Located along Broadway Street were five theaters in a row, hence the name "Theater Row". Here citizens of all cultures gathered together to watch plays, movies, enjoy music, and dining; it was the entertainment hub of Lawrence during that time. Currently Broadway Street has lost its entertainment history and vitality. It has become a corridor for mechanics, McDonalds, Walgreen and the like. Adjacent to Broadway Street is the abandoned Rail Corridor, a perfect opportunity to revive "Theater Row" and bring back life to Lawrence. We will create an entertainment corridor with a variety of program elements, amenities and adjacent businesses that will provide passive and active recreation and entertainment. This will be a destination for residents both outside and within Lawrence, just as Broadway was a popular destination in the past.



Here we have transformed two blocks of unused rail into a multi-purposed entertainment space. We have redeveloped surrounding buildings into restaurants, shops and theaters. Several shops have outdoor seating available to connect to our gathering spaces. There is plaza space larger enough for festivals, outdoor movies, farmers markets and more. Connected to the theater is an outdoor amphitheater with an outdoor stage to be used for performances, art shows or just to provide a place for people to gather. Keeping the industrial past in mind with the rail corridor large Trellis-like structures made of steel tower over you along several parts of the corridor. This section of the rail corridor is meant to mimic "Theater Row" and highlight Lawrence's vibrant history and present day life. It will bring diverse cultures together, provide economic growth, and allow for entertainment of all types to take place in Lawrence.







Lawrence Labor History Walk

Nicholas Brown

One hundred years ago, Lawrence, Massachusetts textile workers launched an explosive eight-week strike that popularized the slogan "Bread and Roses". Its main goal was to strive for dignity and improved conditions as well as higher wages. In January, 1912, mill owners refused to adjust wage rates after the legislature cut the work week from 56 to 54 hours. By refusing to meet shop committees, supervisors hoped to stifle unrest. Instead, they provoked the bitter strike that changed labor relations in Lawrence. As pay day approached, Southern and Eastern European immigrants discussed the expected cuts in large, spirited meetings. The immigrants who led the walkout averaged less than eight dollars per week. For them, the loss of two hours pay meant four fewer loaves of bread on the table. What started as a wage protest quickly became a fight for better conditions both on and off the job.

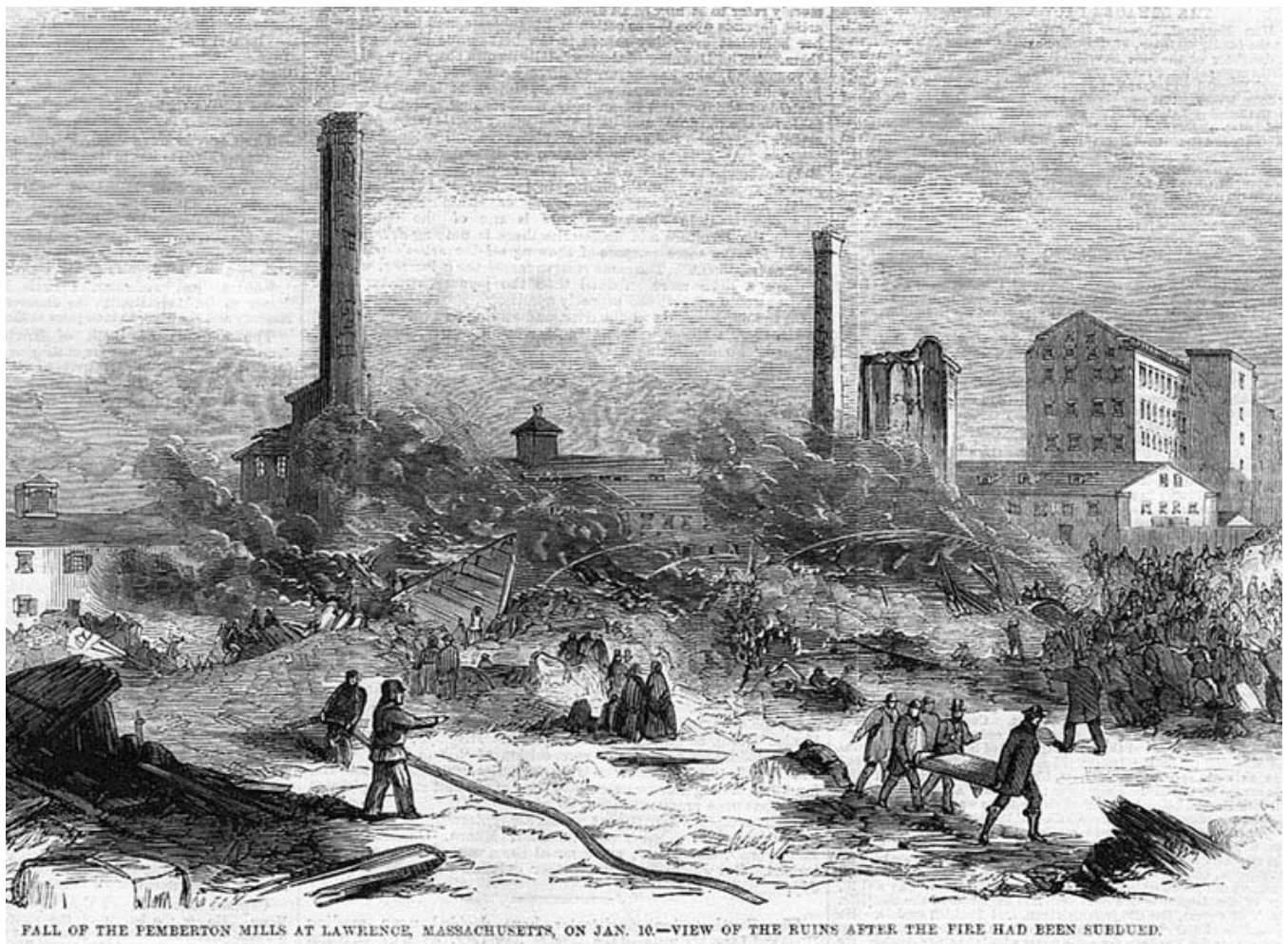
Another tragic event that shaped the Industrial landscape was the collapse and fire at the Pemberton Mill in Lawrence, MA. On January 10, 1860 around 5:00pm the Pemberton Mill collapsed without warning, the structure was only seven years old. The cause was blamed on faulty iron pillars that could not hold the factory machines. Around 600 workers were trapped in the remains of the building. Rescuers set up oil lanterns to help aid in finding survivors, in the process someone



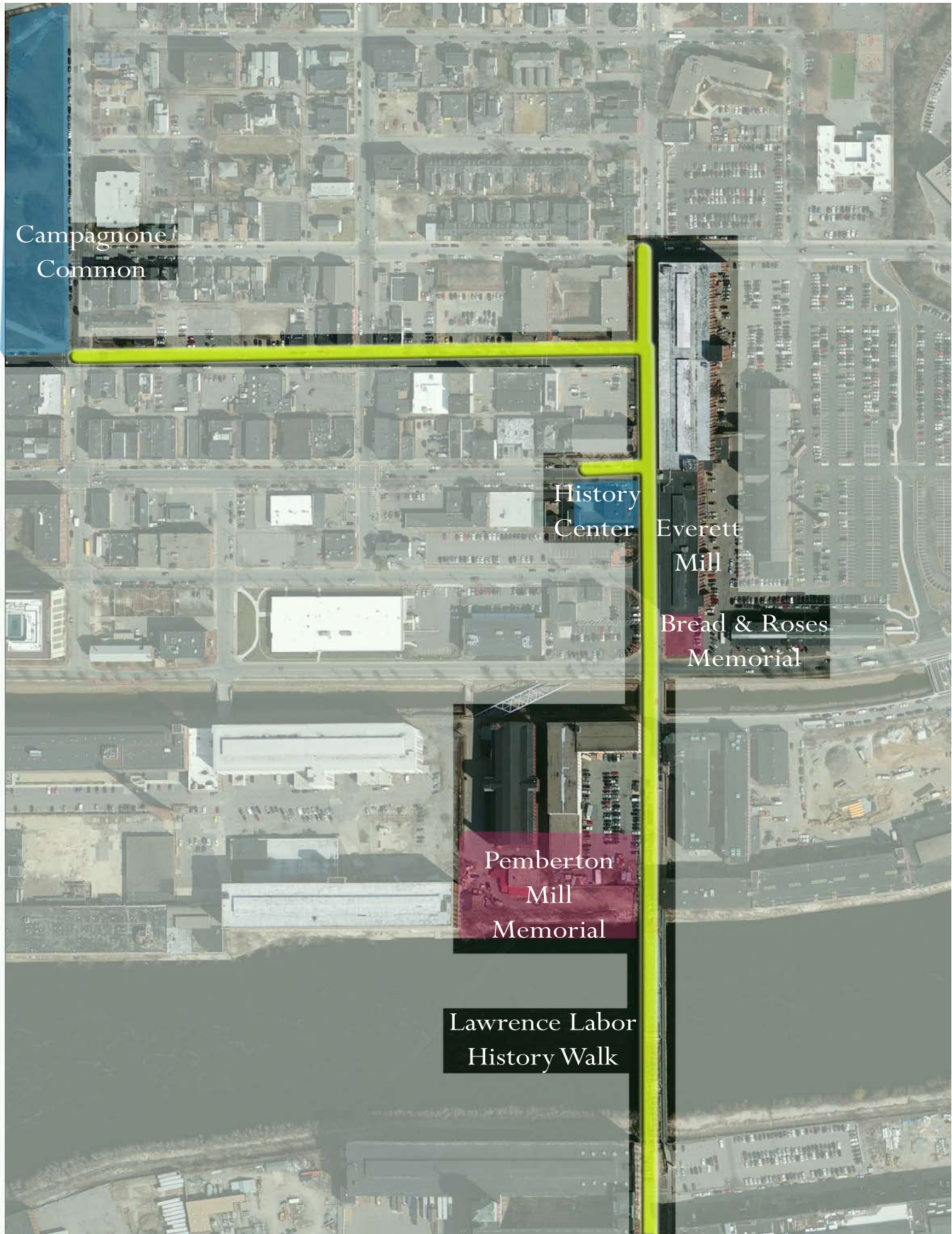
In this picture you can see mill works striking against the mill owners. Police are monitoring there movement and actions.

knocked over an oil lantern that caused a massive fire. Around 150 people consequently died in the fire. The new Pemberton Mill which stands today was built shortly after the collapse.

After examining these two events I thought it was fitting to pay tribute to these tragedies through an industrial history walk. This history walk is highlighted by two parks dedicated to each event. Along the walk is a timeline of Industrial history that took place to shape Lawrence's rich Industrial history. The Pemberton memorial site consists of 2 large open spaces that terrace one another and overlook the river. The third space contains six rows of seating walls that commemorate the 6 floors of the mill. They move down the slope and out towards the water. A meandering path moves through this third space giving you different view of the mills and river. The "Bread & Roses" site which sits north of the Pemberton memorial is made up a large gathering courtyard. There are two plaques explaining the events of the Bread and Roses strike. The large courtyard symbolizes large gatherings that were made by mill workers to protest working conditions and wage rates. The Industrial History walk moves north passed the former Evert mill company which is now the Lawrence history center. The walk finishes at Campagnone Common where workers would meet to strike.



This picture is of the Pemberton Mill Disaster that took so many lives. Here more people died in the fire than from the collapse of the building.



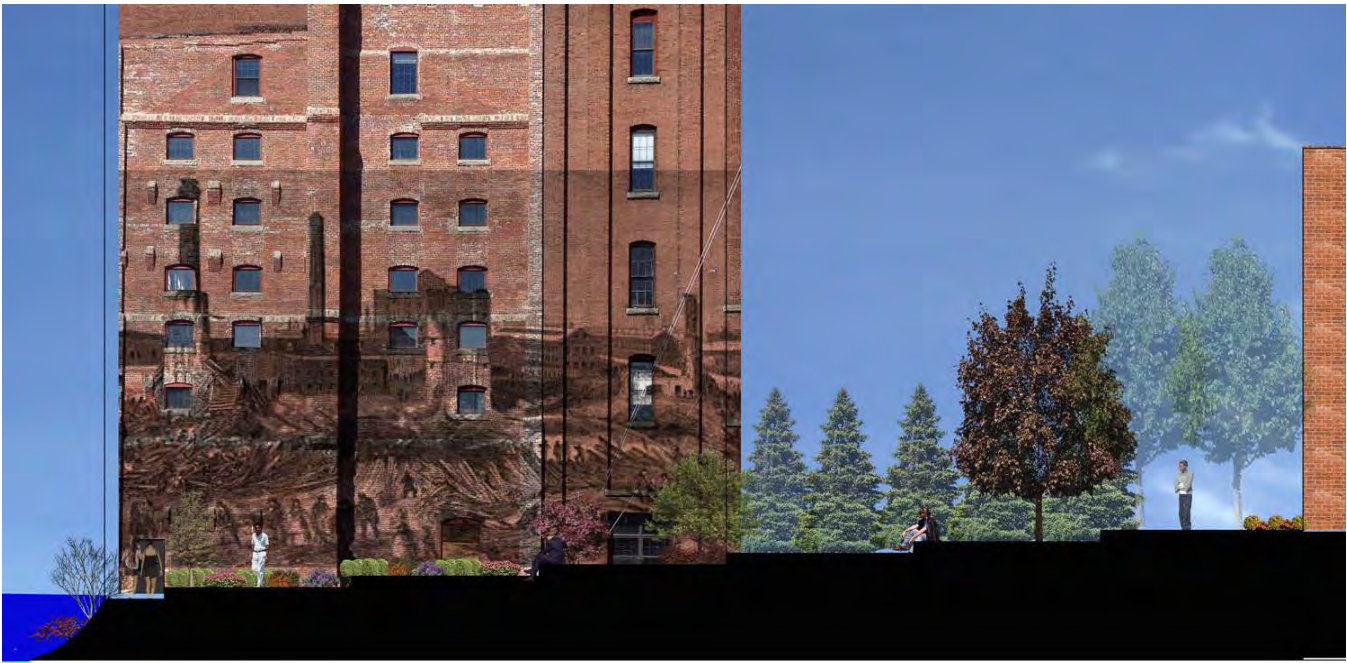
This concept plan looks at the labor history walk at a city level and how important labor history destinations are linked together.



The Bread & Roses Memorial reflects on the gathering of the mill workers. Here a large gathering courtyard made of brick allows visitors to feel what it was to gather in huge groups around these historic sites.



The Pemberton Mill Memorial is made up of three terraces. The upper terrace provides excellent views of the river and city. The second terrace connects you to the proposed riverwalk with a large open space. The third terrace is a reflection area for the Pemberton mill disaster.



This cross section is looking west through the Pemberton Memorial Site. Benches are used along the slope to reflect the floors on the building as they cascade down the hill.



This perspective of the Pemberton Memorial is looking north at the reflective benches and meandering path that takes you through the site. The path put your focus in difference directions so you get the whole experience of the space.



Here is a perspective of the labor history avenue. The design provides for wider side walks and outlines a timeline of Lawrence labor history along the sidewalk.

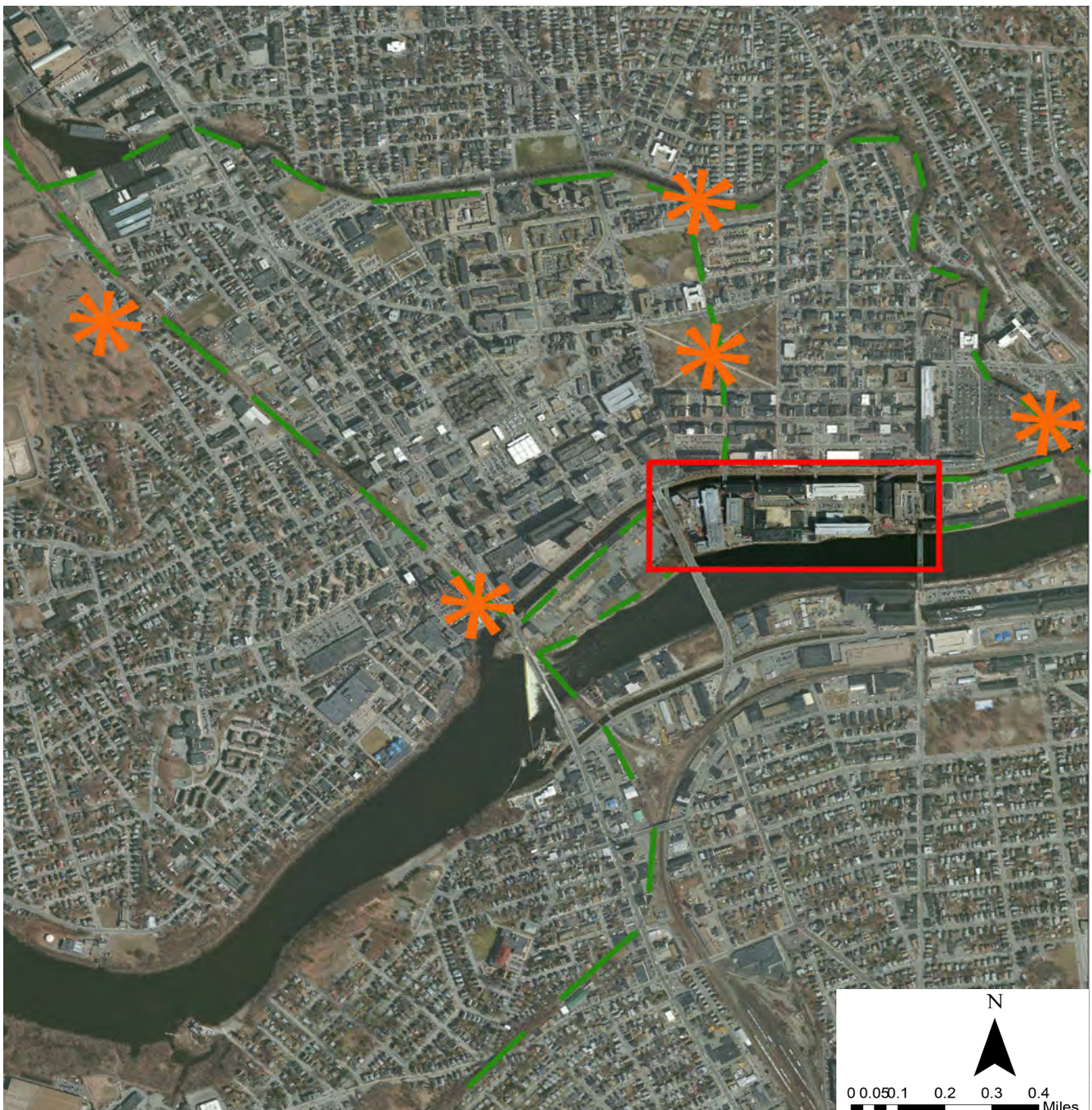


This perspective is looking into the Bread and Roses Memorial Site. The Bread and Roses strike revolved around gathering so I created a large gathering space with a mural and history signs telling the history of the Bread & Roses.

Pemberton Mill Memorial

Henry Puza & Theodore Chesbro

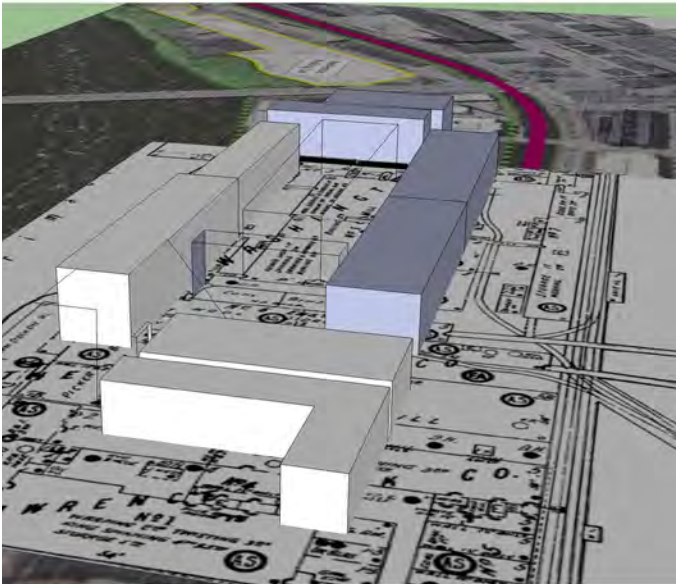
On the Northern island we have selected the Newark Paper site for a memorial and reconfiguration of space to honor the workers who lost their lives in the fall of the Pemberton Mill buildings, an important event in American Labor history. The Newark Paper site has a total of eight buildings, with three buildings assessed for potential commercial or residential use. The three buildings that were assessed could hold up to eight hundred units, which would increase the population density on this island through the roof. If the eight buildings surrounding the site all turn into units in the future they could potentially hold up to 2,000 units. With an increase in residential units, a need for open space, parking and exceptional organization of the likely increase in vehicular traffic in the downtown area would occur.



Studying the Newark paper site in its original contexts would be helpful in seeing the density of the island compared to its present day conditions. The site held approximately twice as many mill buildings as it does now which left people no open space for recreation, vehicular access or designated sanitary waste removal areas. Our memorial site will be located on the Newark paper site, which is situated west of the existing Pemberton Mill. We would like to reorganize this space to create both open space for the proposed residential areas and an area for the mill memorial. Some partial removal of the building would also allow us to make a connection down to the river. This space would also connect to the rail trail greenway to bring people to the gravesites where victims of the mill disaster have been buried. We'd also like to move people from the canal to downtown and the common continuing to the Spicket River greenway.



These two images are of historical maps overlaid on our existing conditions. We used old building footprints to help shape our green spaces as a way to recreate the effect those buildings had on the character of the north island.





Seen in this picture is the existing Pemberton Mill. This is where the original building stood before the reconstruction following the collapse.



This picture taken from an early news article depicts the scene during the time of the Pemberton Mill collapse.



North Canal Site Concept
Henry Puza & Ted Chesbro

Professor Ethan Carr & Robert Ryan
LA 494li



Our master plan incorporates open space for the proposed residential units along with sufficient parking, as well as a memorial space located south of the existing Pemberton Mill. The central green space was developed from an old building footprint which would be used as a multi-use space for the residents in this area. We created a circular memorial space that would ramp down to the Merrimack River from the Pemberton Mill, creating a quiet space for visitors and residents.



This perspective looks into the memorial space we are proposing. The space terraces down from the mill to the Merrimack river. The terraced wall is used to create an interactive water feature which victims names would be displayed upon.



This perspective looks west down our central green space of the north island. Trees and new plantings would provide residents with a shaded green space in the dense and urban character of the north island.



River Overlook

Building Cut-thru

Parking

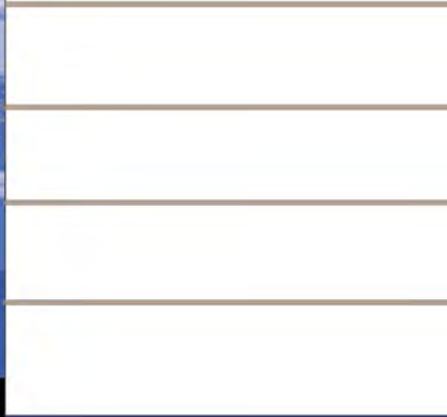
This section cuts through the main portion of the north island showing the relationship of residential buildings, parking, open space, and access down to the Merrimack River.



Overlook

Water Feature

This section cuts through our memorial space looking from west to east. As you can see ramps would encompass the outer portion of the space with an interactive water feature that stepped down into the space from the Pemberton Mill terrace. Visitors could look out from the terrace down to the Merrimack creating a unique view.



Center Green Space

Parking



Green Space

Monument

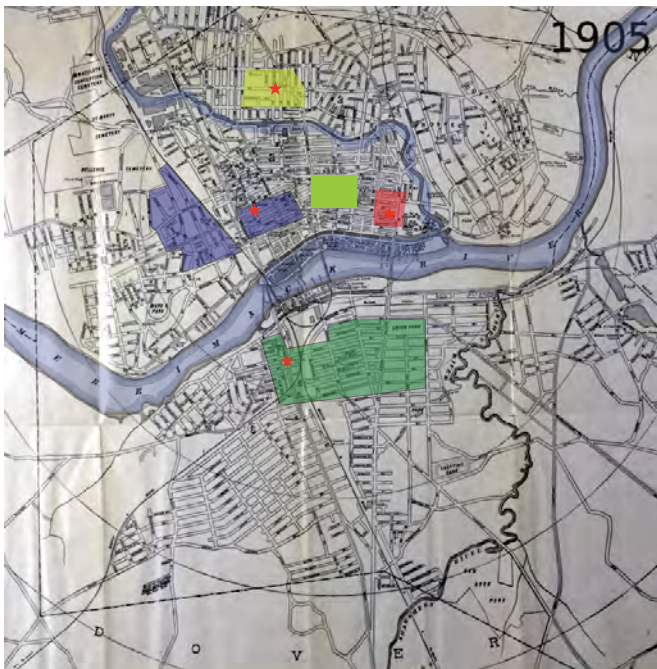
Common and New Interpretive Corridor: the Path of Immigration

Da Hee Lee

Lawrence has been called "Immigrant city" because different ethnic group immigrants to Lawrence by attracted to job opportunities of the city. The immigration communities of City of Lawrence have been changed. At the beginning of the Lawrence Immigrants were mostly European, but after World War Two, the immigrants were mostly South American. Therefore, the user of common also changed. However, the common still use for significant events of the different communities. The common was the most important place for the immigrants, and it conveys Lawrence immigrants' history.

The Campagnone Common is located at the center of the Lawrence. The common was designed by Charles Storrow and his assistants for the city in 1848. The Essex Company offered Lawrence 17.5 acres of land in the heart of town to be recreational public parks for the pleasure of Lawrence residents specially immigrants.

The common is the largest open public space in the Lawrence. The common is located at the center, so different communities can access to the common easily. The Lawrence's communities are composed by different ethnic groups. Many different ethnic groups started immigrant to Lawrence since 1845. Many immigrants need public places for recreation or other events. The common is the pace for the most significant historical events like Bread and Roses Festival and Semana Hispana. The common provides a lively gathering place for the whole community of the Lawrence. The common become a center and symbol of community life because it is related with both industrial and immigrant history of the Lawrence.

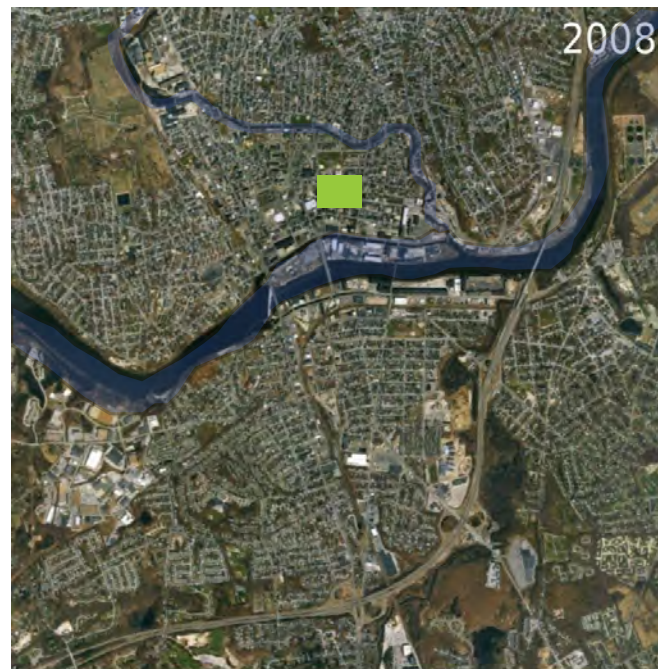


Lawrence Immigrant communities 1845-1900

- The Irish
- The Germans
- The Campagnone Common
- The French Canadians
- The Italians
- ★ Church - Each Community established based on church location

<http://www.lawrencehistorycenter.org/maps>

Cole, Donald B. Immigrant City: Lawrence, Massachusetts, 1845-1921. Chapel Hill: University of North Carolina Press, 1963. Print.



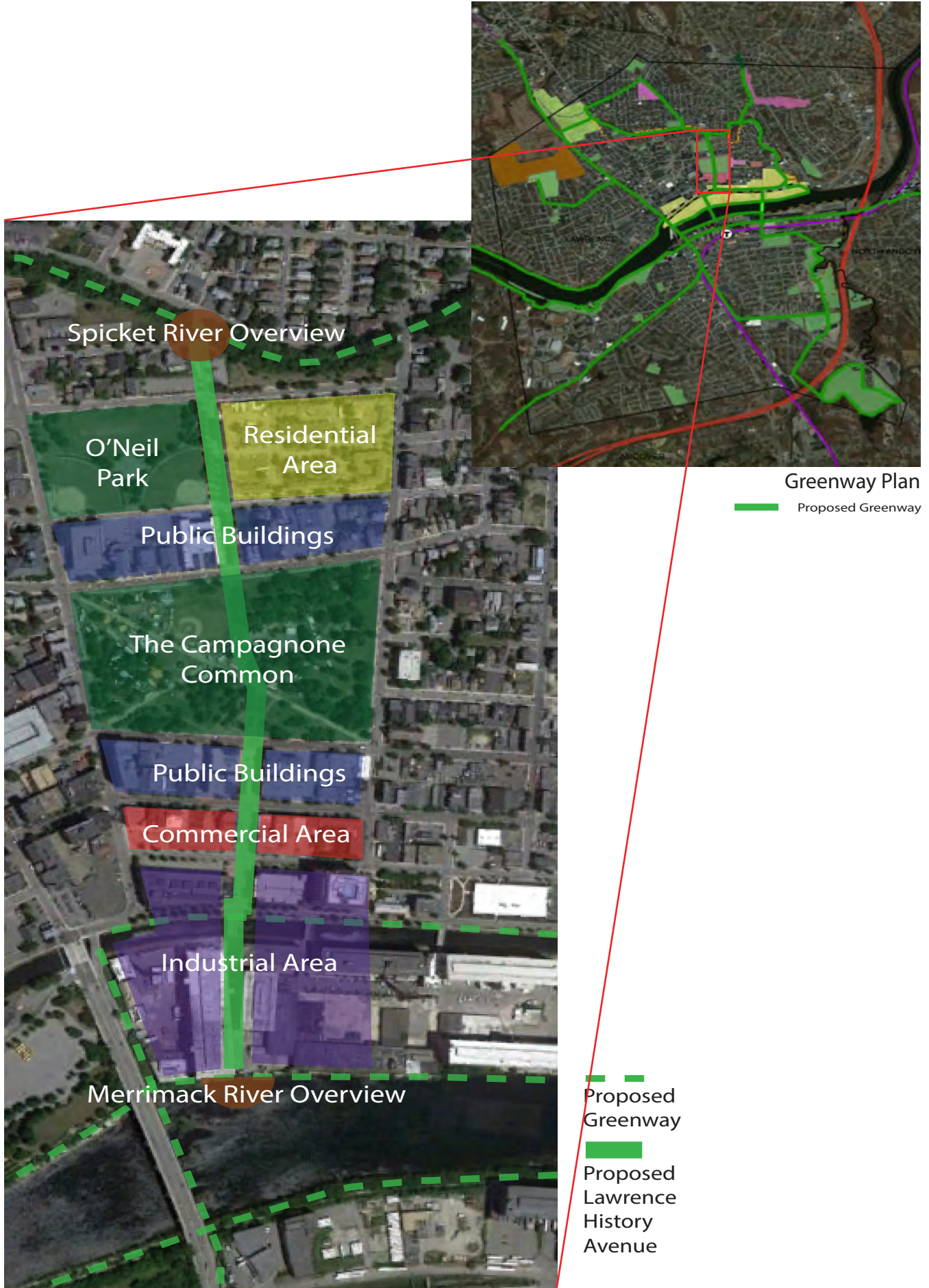
Lawrence Immigrant communities 1970 - Present

- Dominican Republic 22%
- Irish 7%
- The Campagnone Common
- Puerto Rican 22%
- Italian 7%
- Other Hispanic or Latino 12%
- French Canadian 5%
- German 2%
- Asian 2%

<http://www.lawrencehistorycenter.org/maps>

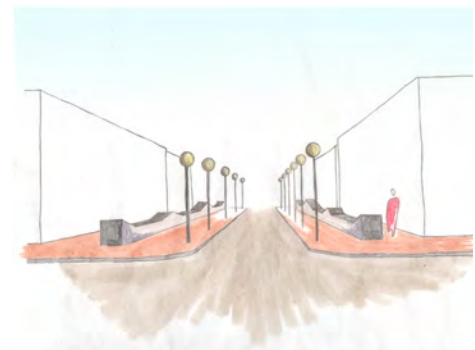
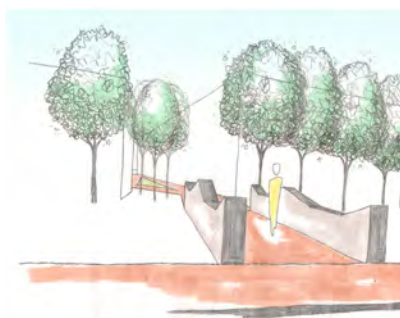
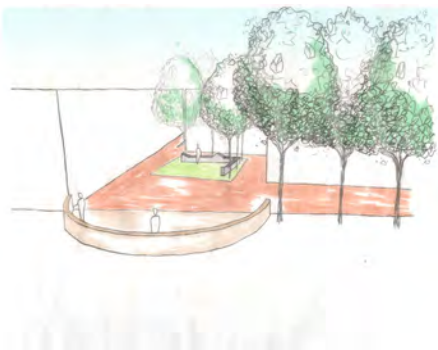
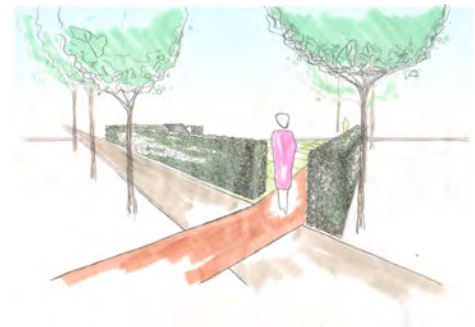
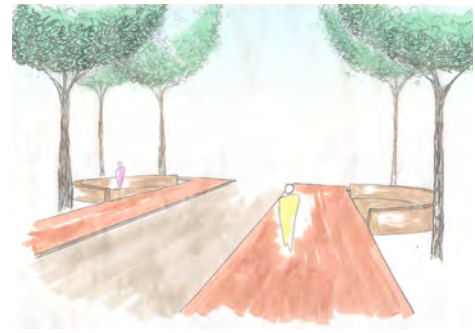
<http://www.city-data.com/city/Lawrence-Massachusetts.html> based on U.S. Census 2010





Interpretive Path of Immigration

Typical Views of Interpretive Walk

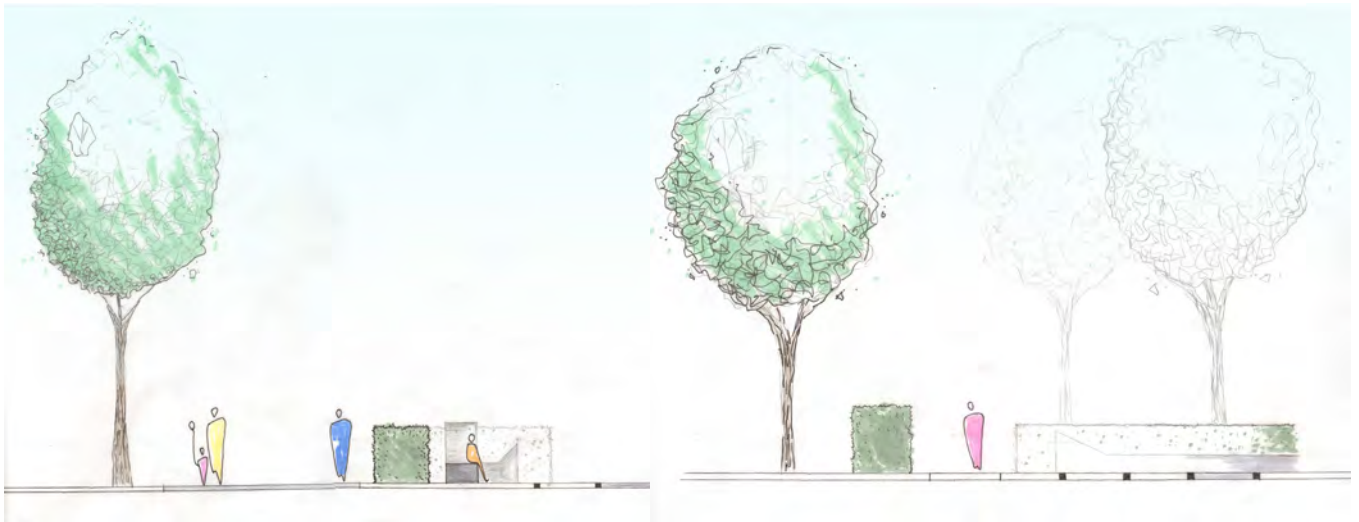


Detailed Common Plan



Lawrence is a city of immigration, and immigration is central to diverse communities' experience. In this design, visitors can experience Lawrence's immigration history through a proposed interpretive walk, which begins at the Merrimack River and ends at the Spicket River. The Immigration experience will be highlighted at the center of the corridor, at the Campagnone Common, because the Common has been and still is the cultural and political center of Lawrence.

Proposed Memorial at the Campagnone Common



Immigration Memorial with incorporated seating

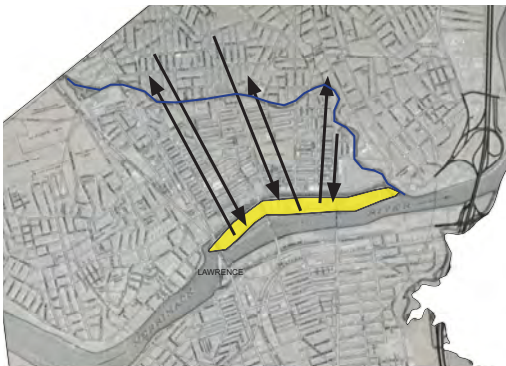


Reinventing the Greenway: Reconceiving Cultural Landscape Heritage Through Urban Agriculture

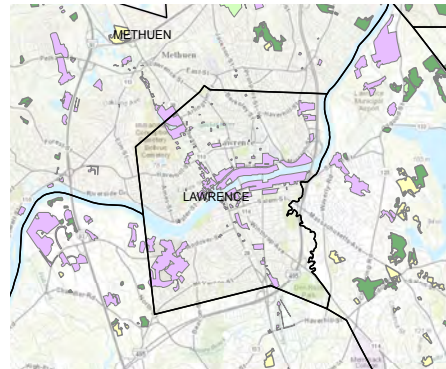
Eliza Rodrigs

Inspired by the idea of industrial production and the contrast between the success of the mill industry and the current state of the industrial island, the proposal seeks to reactivate 'Island Production' through a multi-scale food systems approach. It creates a model for the reinvention the historic patterns of social life in Lawrence by recreating patterns of social activity, and gives new meaning to the 'greenway' in a way that reengages the public within the cultural landscapes of Lawrence.

Understanding that the success of this type of model relies on social infrastructure as well as successful systems design, a variety of scales and methods are proposed that allow for the large-scale implementation of a complex agricultural initiative allowing many facets of participation. Future housing projects, mill reclamation, and greenway development set the stage for this type of approach to urban agriculture, linking Laurentians to each other along the greenway and giving Lawrence an opportunity to expand and profit from the inside out.



Mill workers commuted daily to the island - then the center of factory production and social interaction. the housing expansion of 1962 only reinforced this trend, extending to the neighborhoods north of the Spicket River.



Although there is a large amount of industrial use within the town of Lawrence, agricultural land in the area is currently limited to the northeastern areas of Haverhill and North Andover.

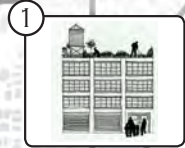
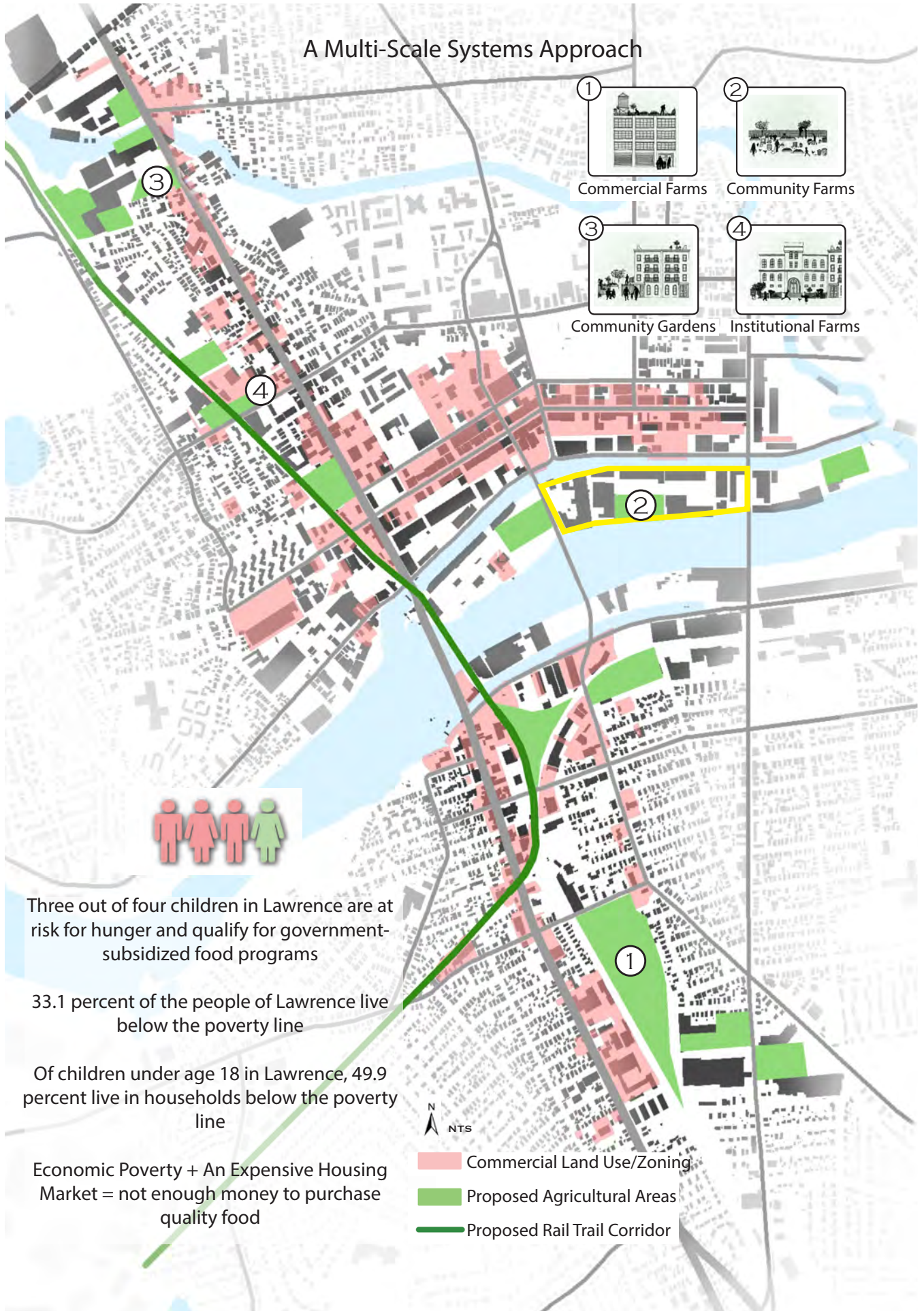


Vehicular transport routes within the town provide infrastructure for movement of product from the industrial island.



City-center greenway and Rail Trail connections provide reestablished pedestrian routes not only to and from the island but also throughout the town of Lawrence.

A Multi-Scale Systems Approach



Commercial Farms



Community Farms



Community Gardens



Institutional Farms



Three out of four children in Lawrence are at risk for hunger and qualify for government-subsidized food programs

33.1 percent of the people of Lawrence live below the poverty line

Of children under age 18 in Lawrence, 49.9 percent live in households below the poverty line

Economic Poverty + An Expensive Housing Market = not enough money to purchase quality food

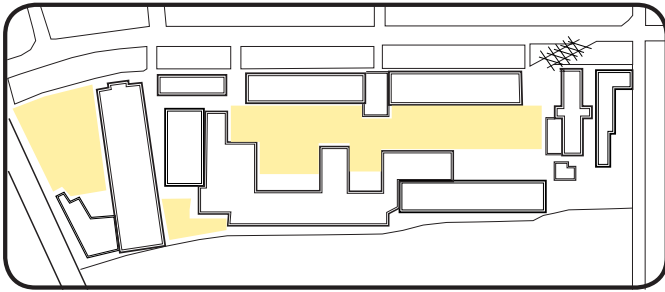


Commercial Land Use/Zoning

Proposed Agricultural Areas

Proposed Rail Trail Corridor

The Industrial Island

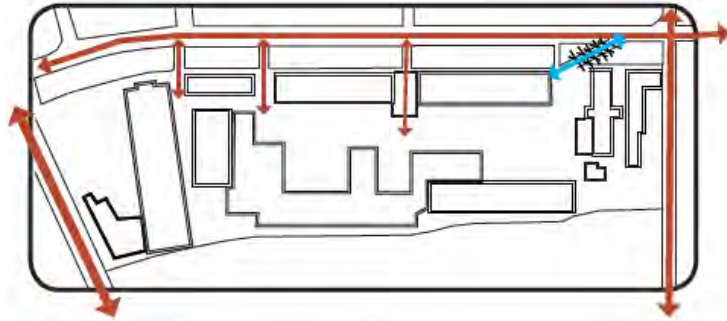


Celebrating the Sun

Sun studies reflect advantageous areas for crop cultivation and food production throughout the New England seasons.

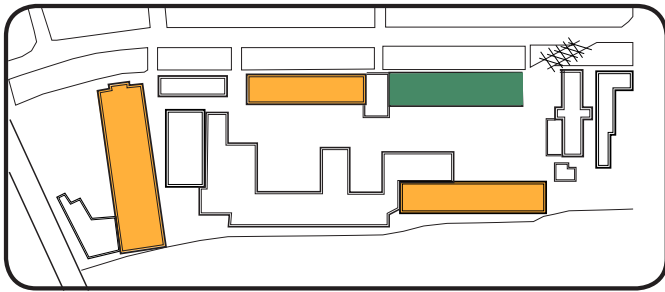
Community Connections

Vehicular transportation routes allow for easy access to both the downtown center and the surrounding region. A new pedestrian bridge allows for a strong connection to the town center.

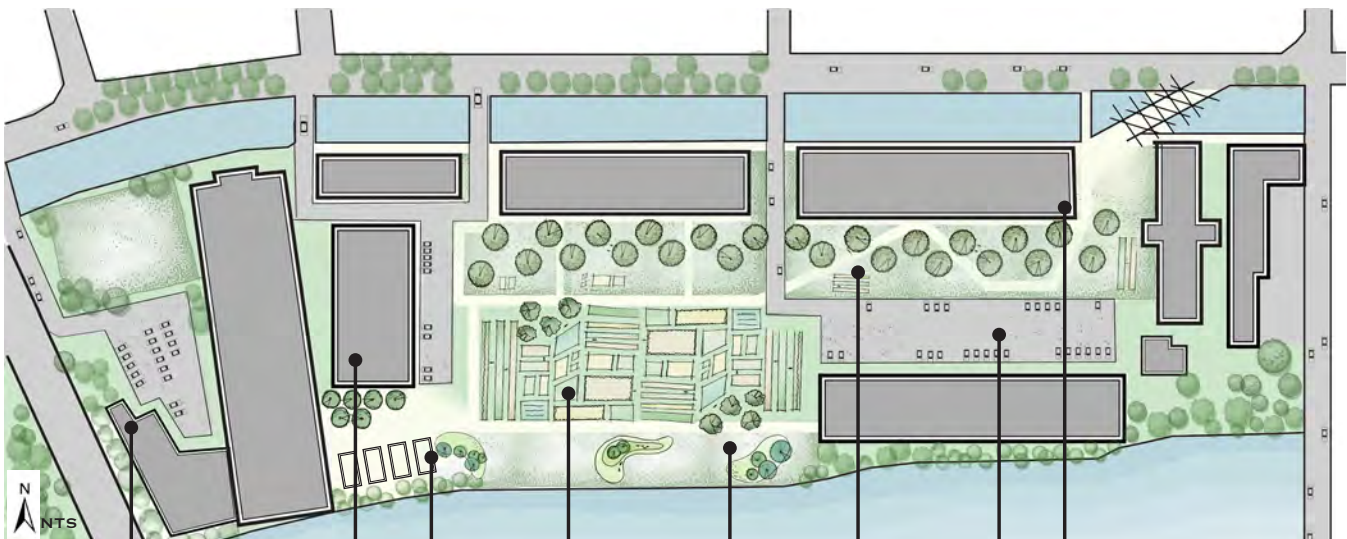


New Neighbors

Proposed housing units provide the social infrastructure necessary for the success of a model centered around community agriculture. A proposed Hydroponic complex provides the context for a larger agricultural complex.



Conceptual Plan & Section



- Compost & Soil Complex
- Mixed Use w. Restaurant
- Greenhouse Complex
- Community Farm
- Riverfront Open Space
- Pedestrian Corridor & Community Gardens
- Relocated Parking
- Proposed Hydroponic Complex



Proposed Hydroponic Complex

Pedestrian Corridor & Community Gardens

Relocated Parking

Community Farm

Riverfront Open Space

Multi-seasonal Production



Hydroponics
Hoop Houses
Greenhouses
Indoor Seed Start
Outdoor Bed Prep



Raised Vegetable Beds
Herb Gardens
CSA Initiative
Community Programs
Farmers Markets



Hoop Houses
Storage & Canning
Next Season Bed
Prep



Hydroponics
Greenhouses
Soil Preparation

Making Connections

1850



2020



Reflecting of the
'Cultural Landscape' of Lawrence

- Links historic trends of production & social interaction with new agricultural community models.

- Involves PEOPLE in their PLACES

Facilitates active engagement in the landscape

- Reinterprets the concept of historic preservation by recognizing patterns, reviving systems, and bringing production back to the central island.

broadway_industrial

phil cassidy

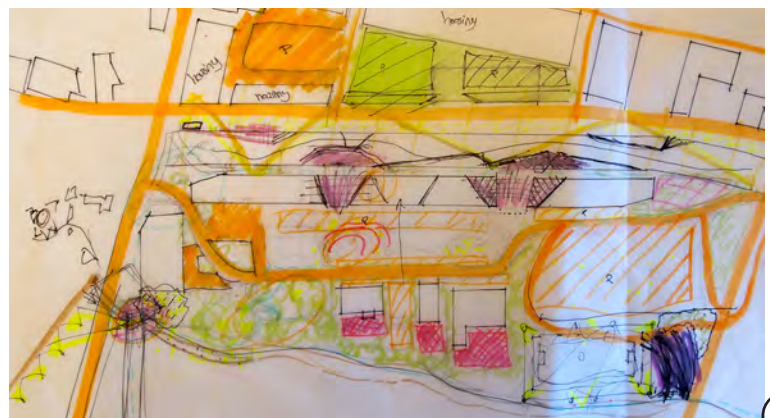
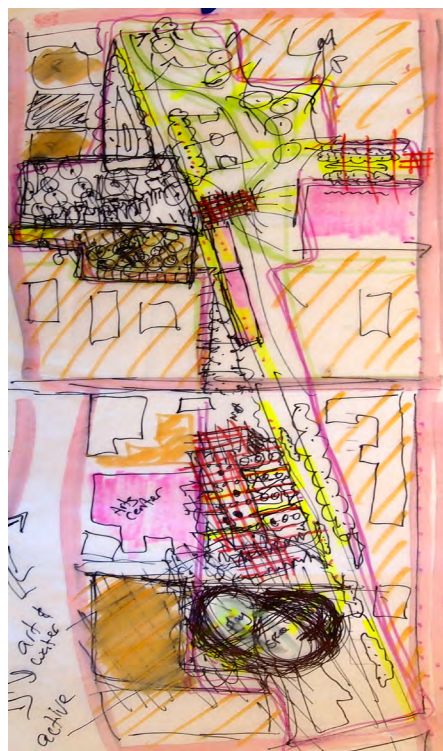
Beginning in the 1850's and continuing for 100 years, Lawrence Massachusetts transformed itself from a relatively flat, marshy landscape into a thriving industrial city. This build out resulted in a city that has attracted thousands of Immigrants from all over the world, hence its nickname 'The Immigrant City.' With nearly 70,000 people in a 7 square mile radius, the densely populated area became a bustling city.

While the labor force undoubtedly worked hard, they also had a need for entertainment. Theatre Row, along Broadway, consisted of several ornate movie palaces. With four theaters in a row and several more up and down the street, Theatre Row was a main entertainment attraction for the mill workers and their families. A world record for most movie theaters on a single street, these venues lit up the City of Lawrence and entertained Merrimack Valley citizens for decades. In an effort to create economic benefit from new development, 'Urban Renewal' targeted 35 acres in Lawrence for demolition during the 1950's. This included 'Theatre Row'. By the mid 1960's all but one theatre had been razed. Originally 'The Strand' built in 1917 and later renamed 'The Astor' is the last remaining theatre building on Broadway. The small but memorable 'row' to many, has almost completely disappeared in sight and mind. In an effort to reignite the memory of this culturally significant place and time, my design commemorates the historic passion for the theatre by celebrating the lively 'Theatre Row' through significant lights that mimic those once seen on Broadway. My design concept is to attract and entertain the citizens of Lawrence and surrounding regions by creating a series of events and spaces that celebrate the culturally significant lights, sounds, and atmosphere of Lawrence during the late 19th and early 20th Century.

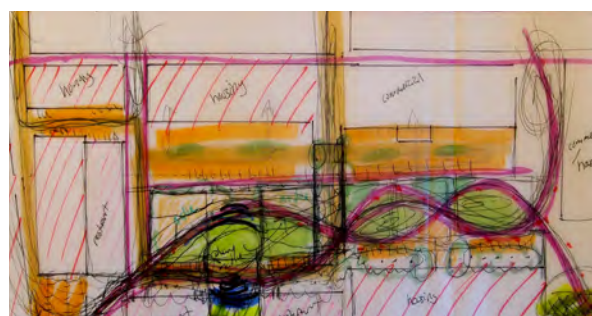


The historic images above show Lawrence in the early 20th century.

Inspired by the lights that once emanated from Theatre Row on Broadway, the conceptual design melds lighting, entertainment, theatre, and art, in-line with City's historic mill infrastructure. In aspiration to achieve an energetic nighttime atmosphere, similar to the one Theatre Row brought Broadway, my idea is to create a series of spaces for outdoor theatre, market vendors and art exhibitions showcased at night



To convey the notion that by re-imagining the canal and its historic industrial surroundings as an energetic hub of nighttime activities. This site will encourage artists to create works that interact with and or reflect their surroundings. Highlighting sculptural art with lights. Similar to the atmosphere Theatre Row on Broadway brought to Lawrence in the 20th Century.



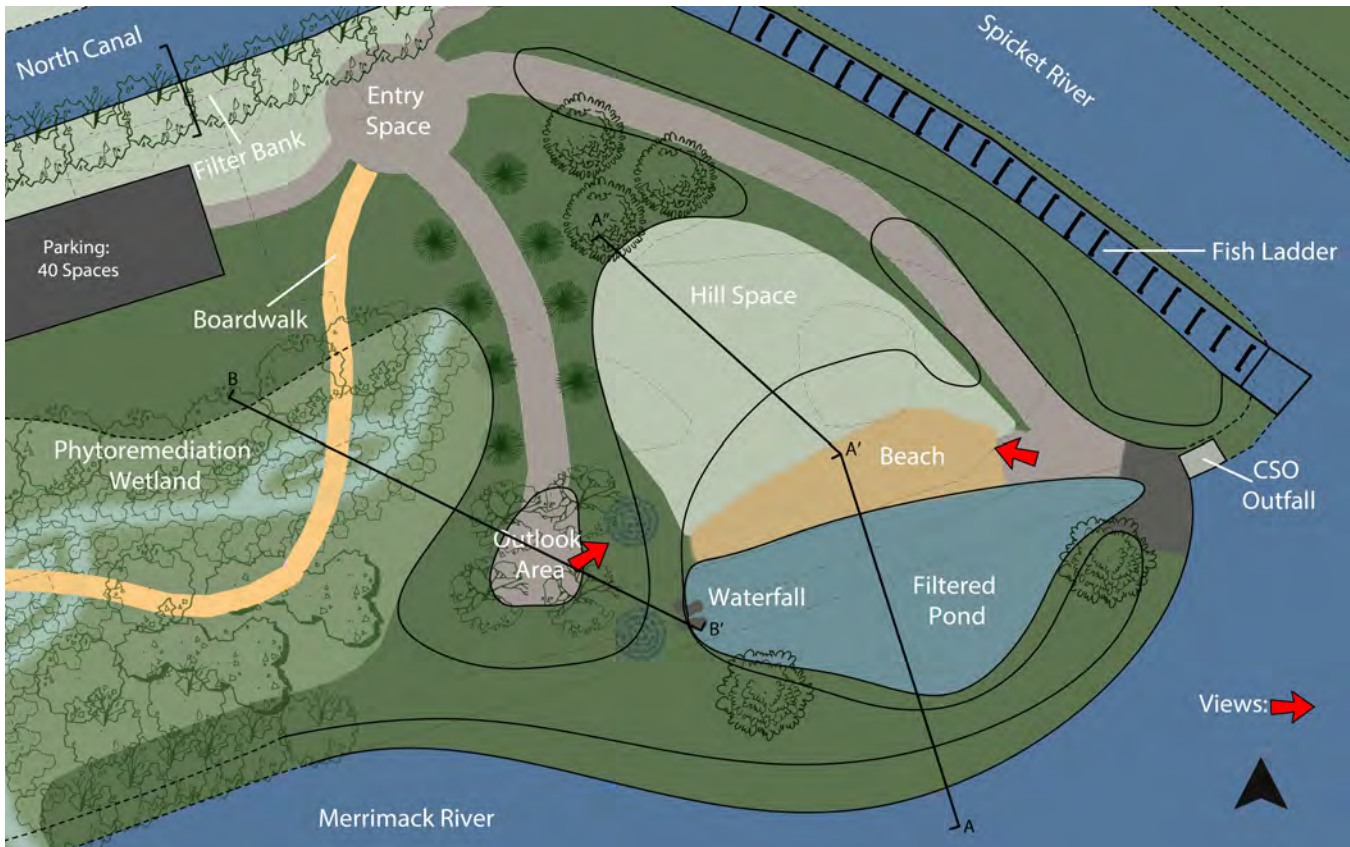
Celebrating the Wonders of Lawrence

Thomas Frontera

Lawrence is a historic mill city that once was the third largest city in population in Massachusetts. During the mid to late 1800s the city sprang up along the banks of the Merrimack River around the Essex Dam. The city boasted some of the finest engineering marvels of the day including the fastest locomotive, the world's largest mill building, and the world's largest Dam. However in the 20th Century the businesses left the city, leaving many of the mill buildings in disrepair. Today Groundwork Lawrence is living their mission statement by occupying vacant buildings and rethinking the use of empty lots.

The Ferrous Site is on the eastern edge of the Industrial Island in the city center of Lawrence. It lies at the convergence of the Merrimack River, the Spicket River and the North Canal. The location and historical significance of the Ferrous Site gives it the opportunity to be an important green space within the urban fabric that not only serves the residents of Lawrence but also serves ecological function.

In the late 1800s Lawrence was plagued by a Typhoid epidemic because of its overcrowded and unsanitary conditions. In 1893 the State Board of Health built one of the first experimental water filtration systems in America on what is now the Ferrous Site. The system used a time tested slow sand filter to physically remove water borne pathogens and particulate matter. The result of the experiment was a significant reduction in the amount of illnesses caused by water borne pathogens. The proposal celebrates and emulates the site's rich history with the use of careful design consideration. The historic filtration system is emulated by a sand bank along the North Canal which will filter the water for a engineered pond. This Sand Filter Bank will use the same basic concept as the 1893 system.

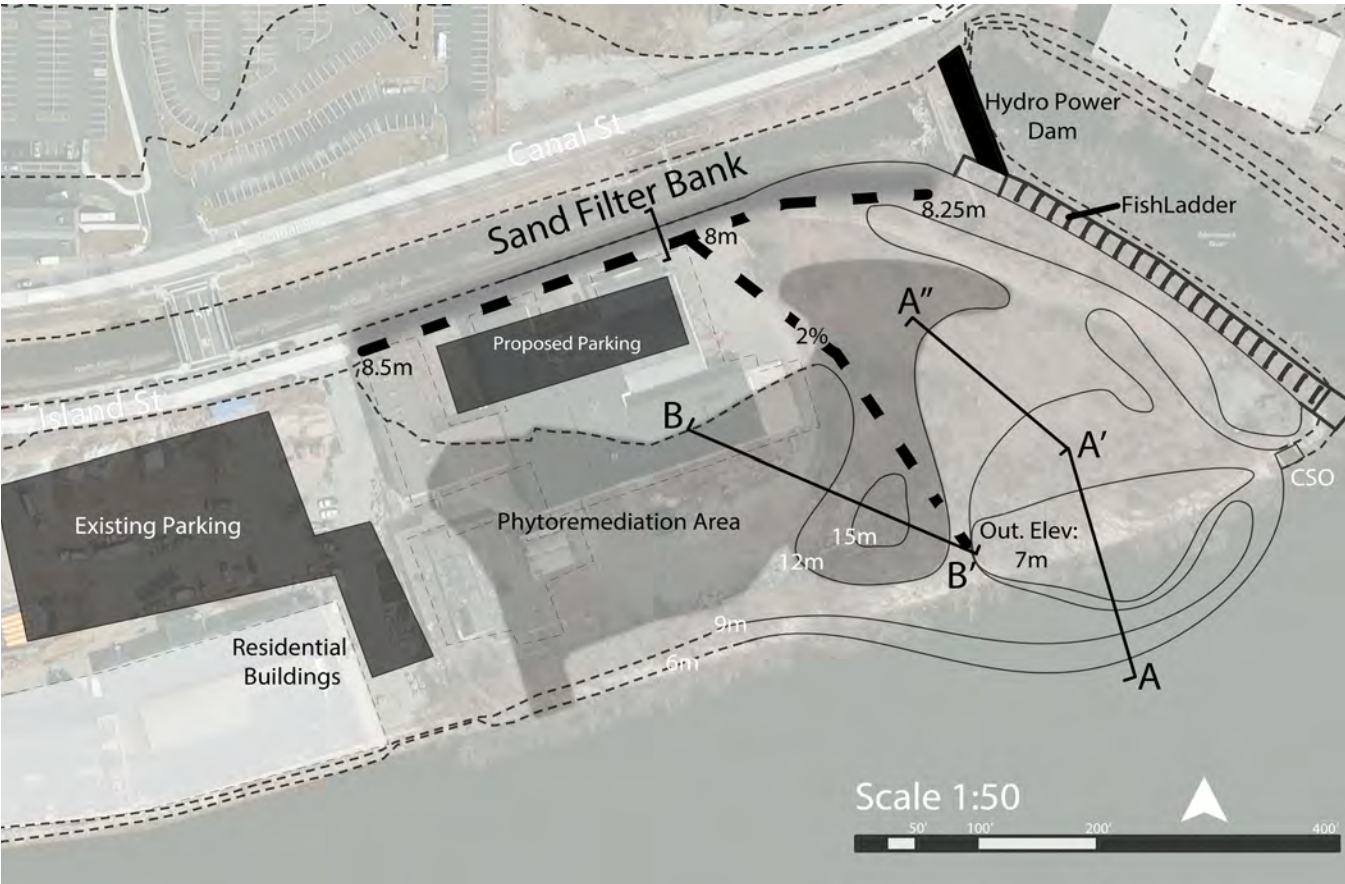


This image shows a rendered plan of the design proposal. Visitors can access the site through a wetland boardwalk, a pathway from the parking area, or a bridge over the canal that connects to the Spicket River greenway.

This engineered pond sits at the bottom of a south facing hillside and will provide a safe water recreation opportunity for the public. A large majority of Lawrence residents do not know how to swim because of their limited access to clean water. The proposal will provide a place for them to learn to swim and be more active.

The rich industrial history of the Ferrous Site has taken its toll on the site. From site observations the site seems to be contaminated with industrial debris. The industrial debris is most likely slag from the smelting that used to take place on the site. Slag is toxic and contains heavy metals like lead, cadmium, and copper depending on the kind of smelting. However Slag also makes a good aggregate for concrete that could be potentially harvested during construction of the proposal.

After the usable Slag is taken away the leftover contaminated soil will be consolidated for Phytoremediation. To carry out the Phytoremediation process a specially selected plant list has been compiled featuring plants that have the ability to uptake contaminants specifically heavy metals. Each plant also has a landscape value that will add to the aesthetic of the proposal. Since the goal is to minimize the amount of new soil trucked in, the contaminated soil will also be used to create a hilltop for the outlook area. From this outlook area people will be able to experience the proposed landscape along with the wonders of Lawrence including the massive Worsted Textile Mill building across the river.



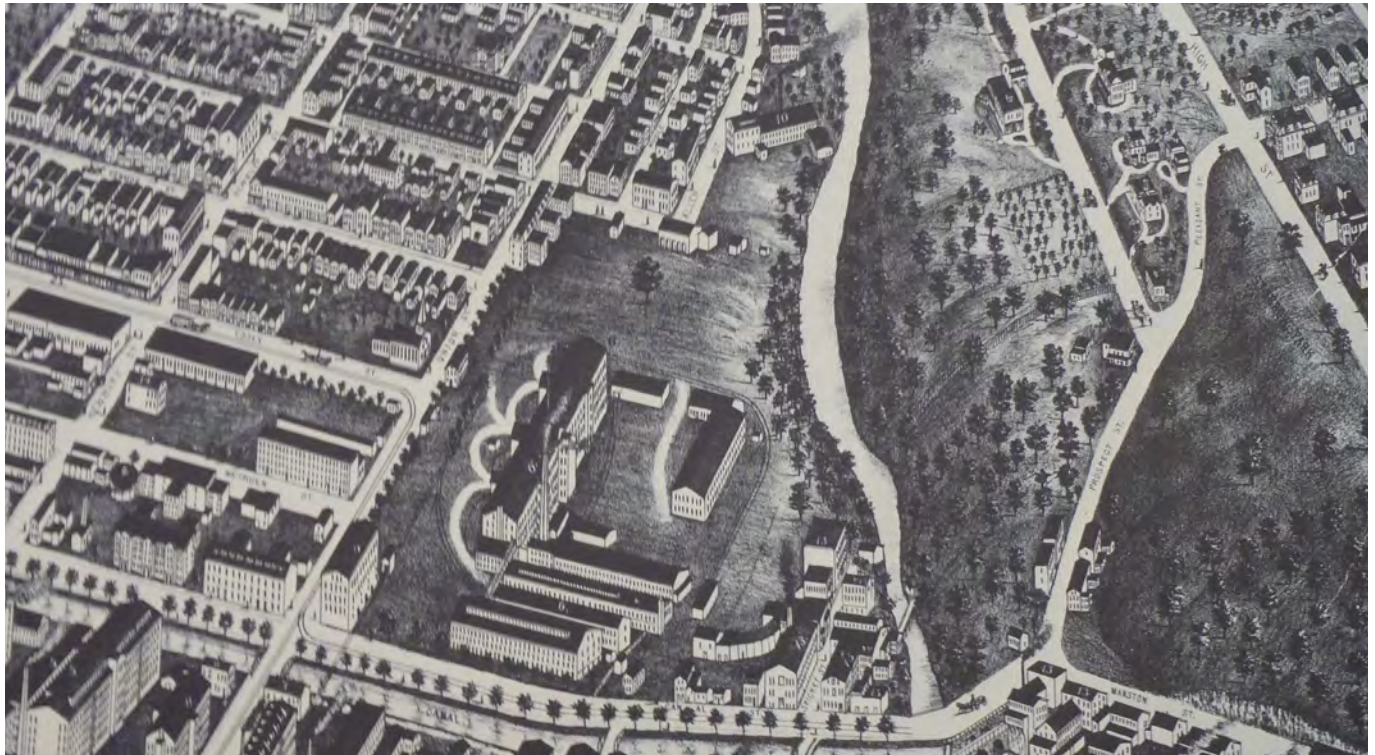
This plan illustrates the functional layer of the proposal. The pipe that carries filtered water to the pond is represented with a dashed line. Phytoremediation Plants will slowly bioaccumulate heavy metals until they are harvested and the metals are extracted.



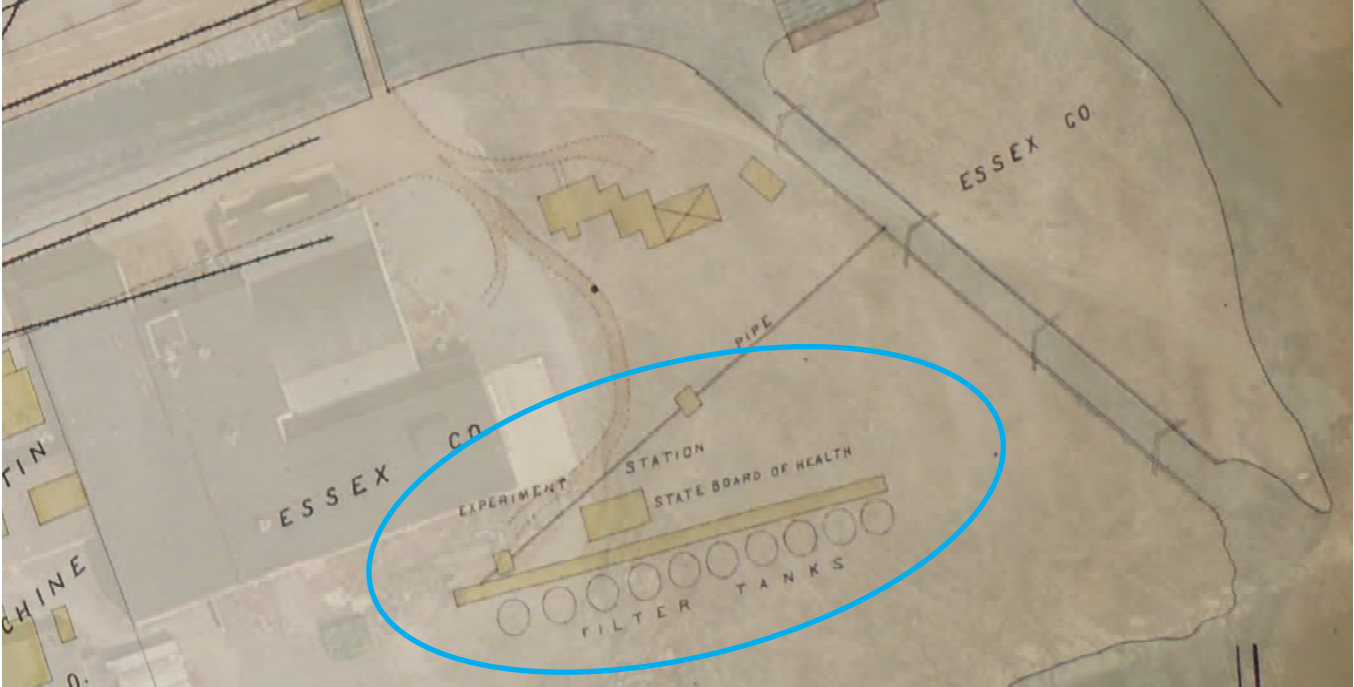
This image illustrates the results of the site analysis which was done through site observation, research, and phone interviews. The river bank is heavily vegetated with Native Riparian Species of trees like River Birch. CSO outfall #4 has become less of a detraction to the site because of major upgrades to the sewage treatment plant and will continue to lessen with further phases of the project.



This is a image of the existing conditions. It is a successional landscape dominated by the aggressive natives Staghorn Sumac and Black Locust along with invasive species like Japanese Knotweed and Oriental Bittersweet. Industrial debris can be seen scattered throughout the site with the highest concentration on the mound to the far right.



This map from 1876 shows the conditions of the industrial island including the Ferrous Site during that time period. After the island was built the only building that sprang up on the Ferrous Site was the State Board of Health building. Next to the State Board of Health building was a channel that featured a lock system built to get boats up river. Besides SBoH building and the boat channel little was done to the site until 1893.

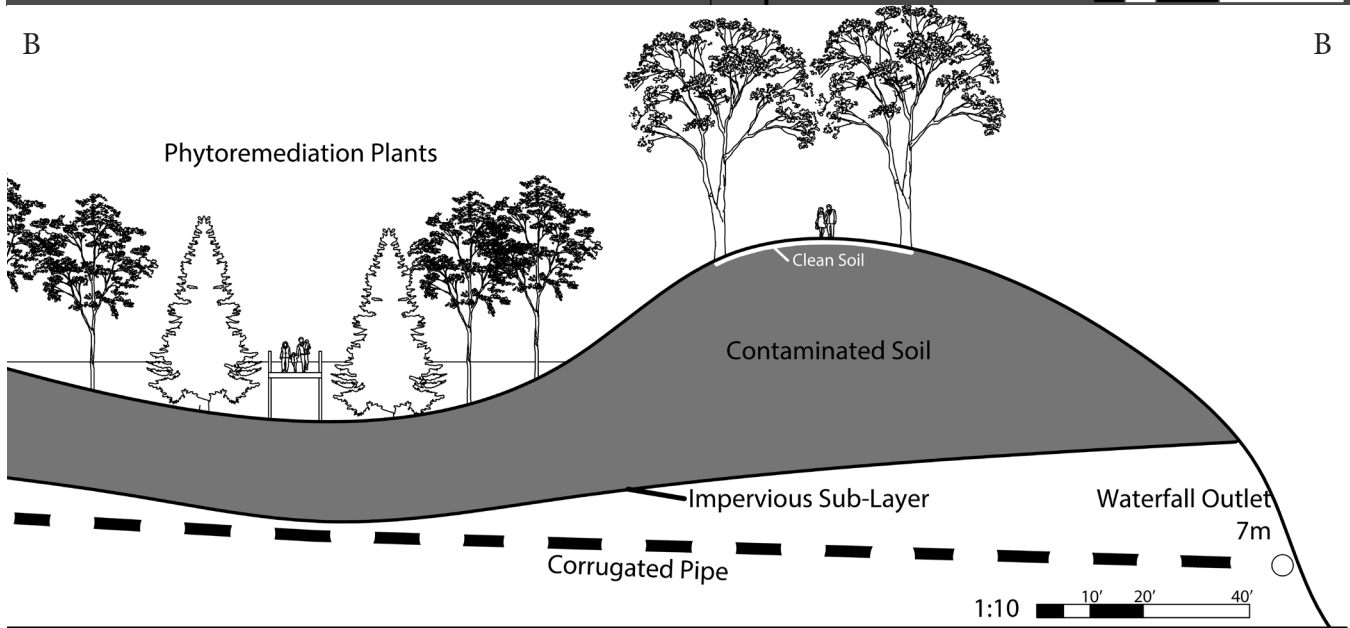
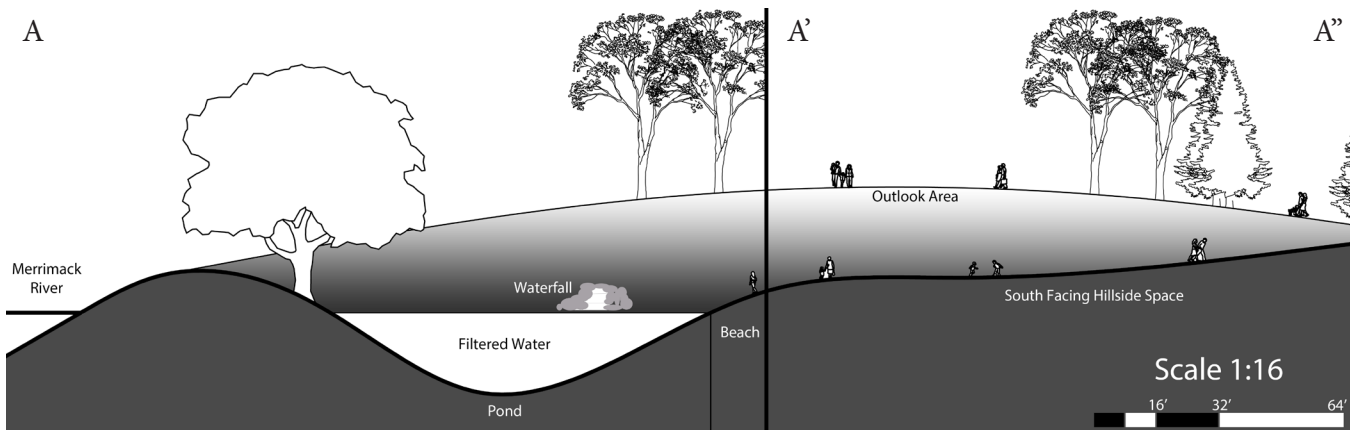


In the late 1800s the city of Lawrence was plagued by a Typhoid epidemic. This was due to the overcrowded and unsanitary conditions of the city. To combat the disease an experimental water filtration system was built it was the first of its kind in America. This image shows an 1896 atlas map overlaid on a satellite image of the site today. The historic filtration system can be seen circled in blue.

The users of the site will be protected from the contamination by a six inch to one foot layer of clean soil in the active areas. The Phytoremediation process is only effective in the first two feet of soil therefore not all of the soil will be remediated at once. To cleanse the rest of the soil, percolating rain falling on site will slowly remove water soluble contaminants. The heavy metal laden water will pass through the soil until it reaches the sloped impervious sub layer of clay. This impervious layer will carry the water underground to the Phytoremediation wetland at which the slope of the impervious layer and the depth of the soil above it will lessen. This water will slowly flow through the wetland and the roots of the Phytoremediation plants until it outflows into the Merrimack River.

The Merrimack River features many Anadromous fish (salt water fish that rely on rivers to spawn) such as American Shad, Smelt, and Alewife that depend on the river to bring them to their spawning grounds. However they face many obstructions along the way including the Essex Dam just upstream of the Ferrous Site. The proposal addresses this issue with a fish ladder designed for the species of fish present in the Merrimack. Allowing the fish better access upstream to their spawning grounds will improve their numbers off the coast.

The proposal is a multifunctional landscape with many layers. It will provide Lawrence residents access to clean water, education about Phytoremediation and fish ecology, and a place to celebrate the rich history of their city. The Ferrous Site will once more become an important place to the city and the environment at large.



Section A is an offset section cut through the south facing hillside and the filtered pond. Section B This is a section cut through the Phytoremediation hilltop and the beginning of the Phytoremediation wetland. The boardwalk through the wetland will allow residents to be able to walk safely through the area and learn about the Phytoremediation process.



This is a view looking west from the entrance to the beach space. The Phytoremediation hilltop is covered with Honey Locust trees, Hydrangeas, and violets. The Worsted Textile Mill building can be seen in the background on the far left.



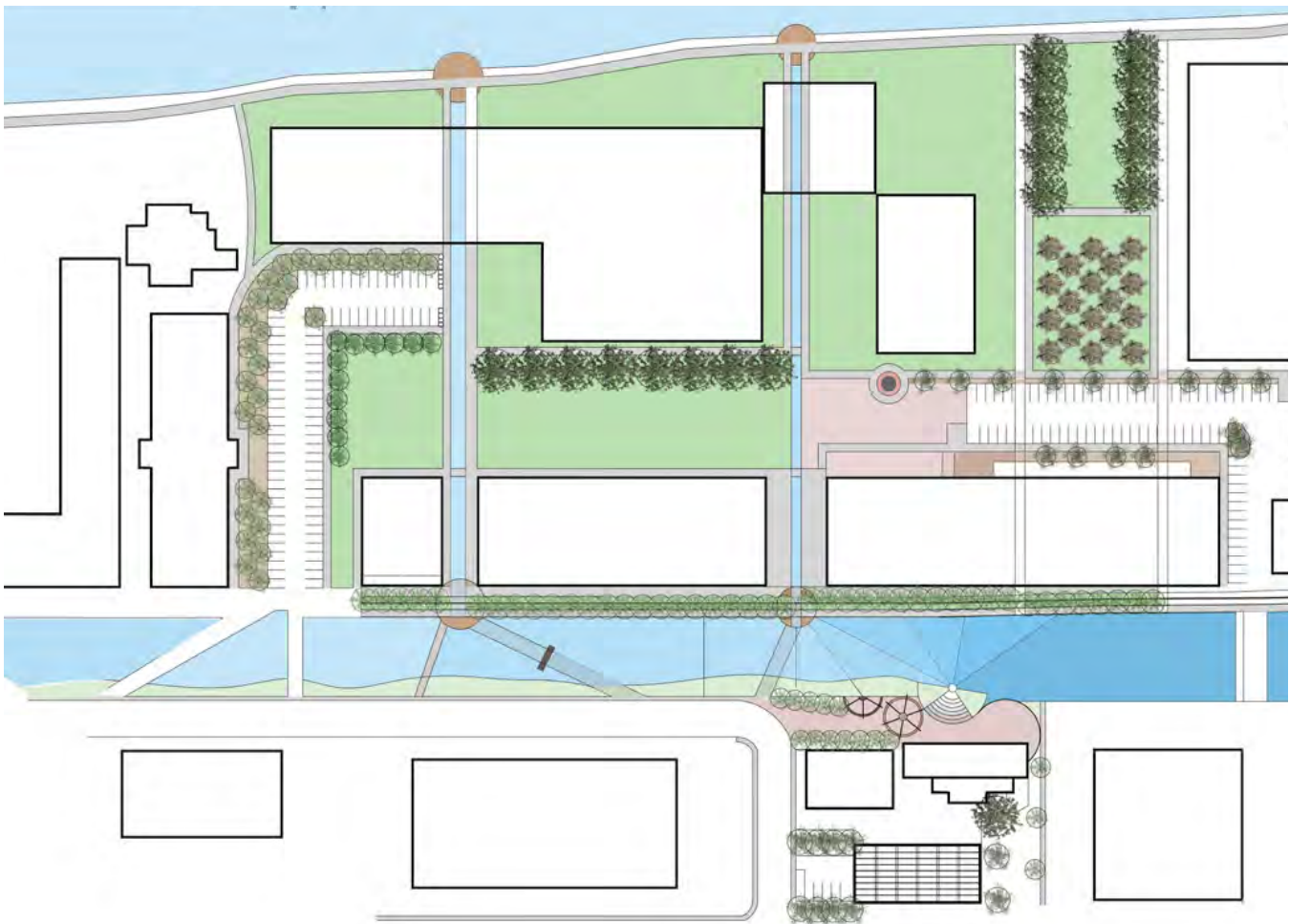
This is a view looking northwest at the south facing hillside. The hillside will be a great sun bathing area where residents can lounge on the blue fescue grass.

North Canal Project

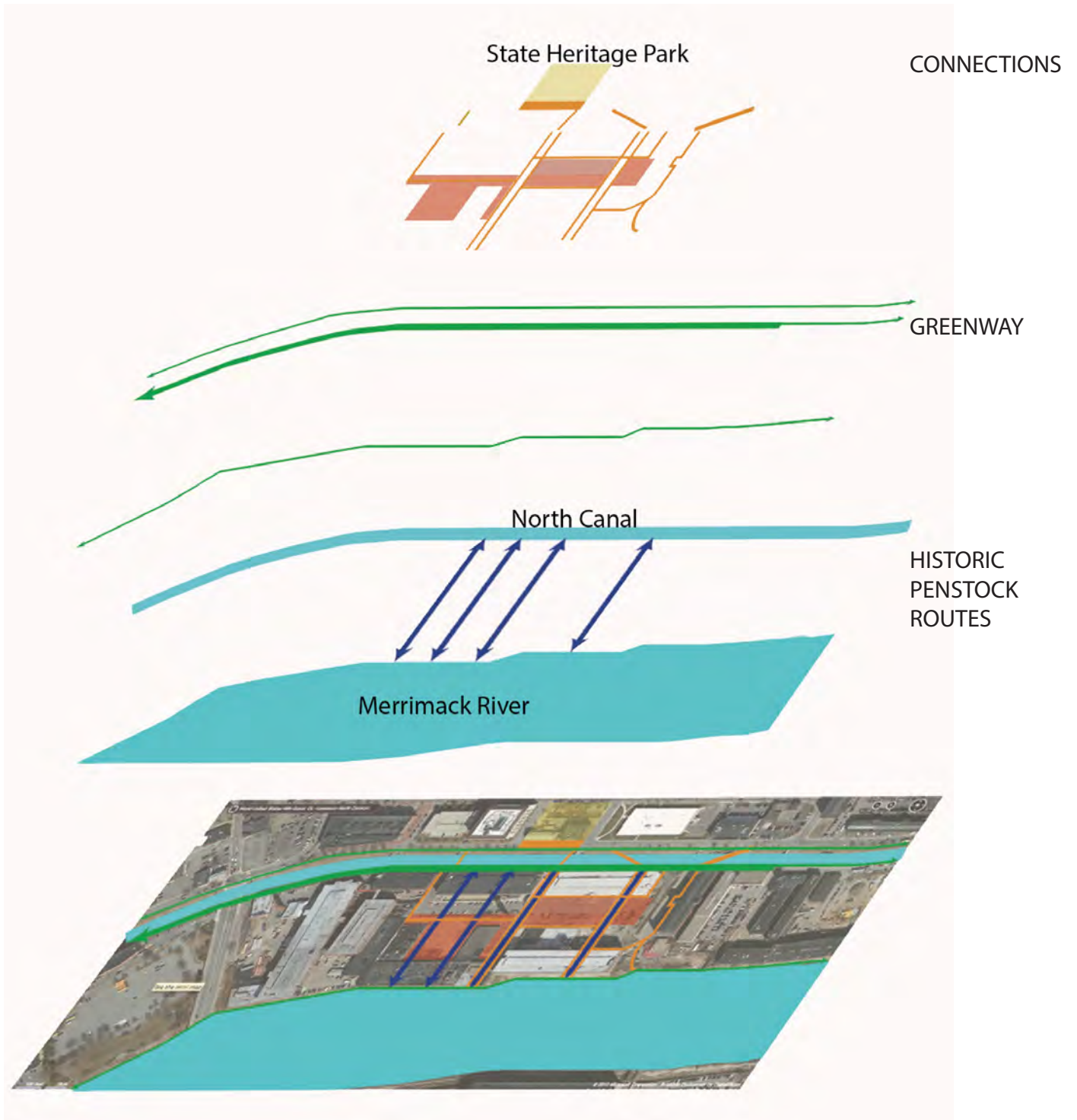
Philip Schweiger & Kathleen Haas

Finding inspiration in the gears that turned the historic mill buildings' penstocks, this design creates a new connection to the State Heritage Park and the canal. By first eliminating traffic in front of the State Park building, this plan shows a series of new spaces linked by their axes. Each space is represented by a wheel that leads the pedestrian through the plan. The wheels are represented on different levels and scales, one of the wheels steps down into the canal while another raises above the pedestrian's head in a trellace structure. A series of waterfalls reinvigorates the canal, turning it into a playful and interactive riverscape.

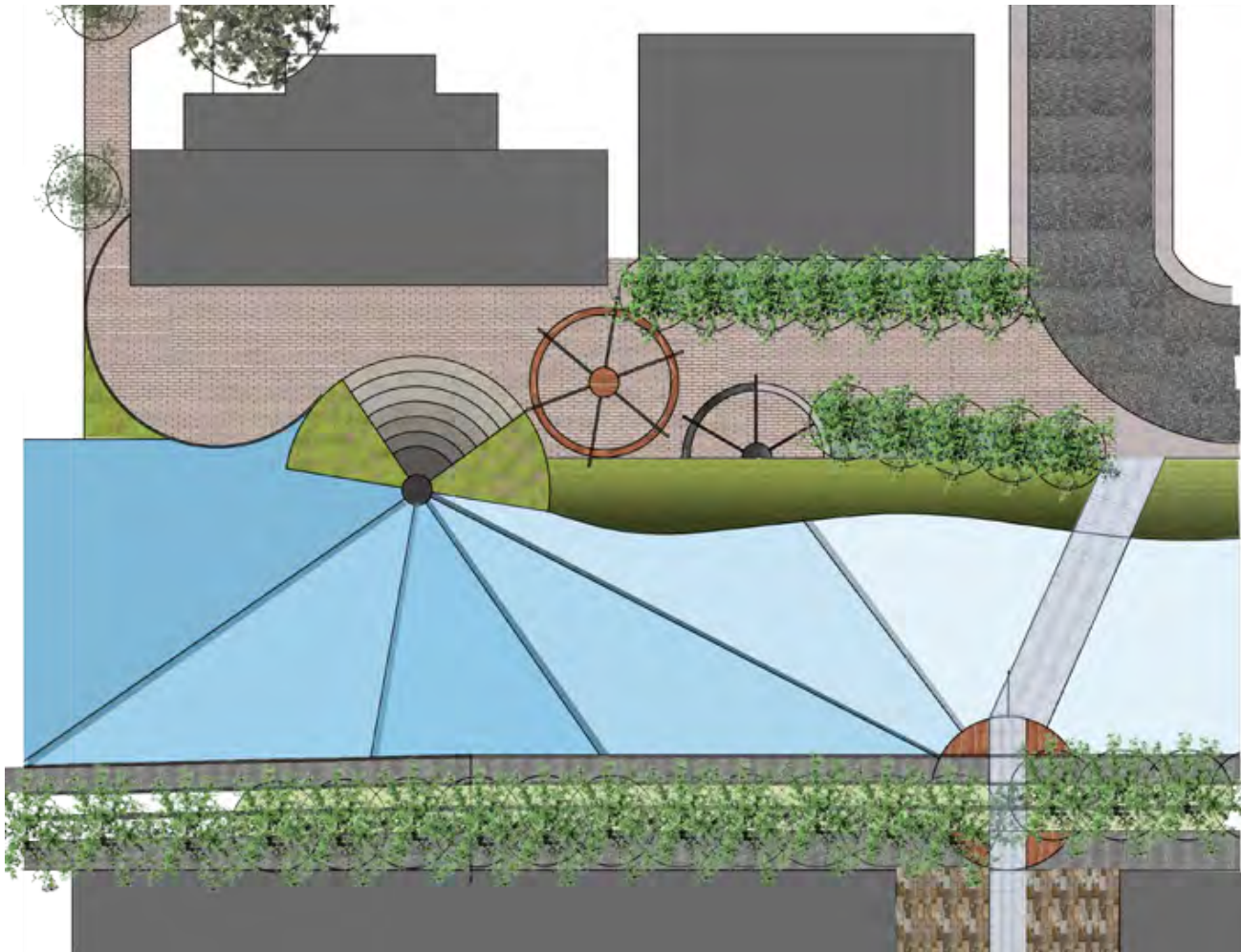
Historically there was an old railway along the north canal, and this design proposes a walking path along this route, highlighted with successional trees and shrubs. Visible here is also the materials used for the penstock corridor. Granite stone lines the penstock corridor and makes up the penstock wall. Cobblestone will be used along the North Canal, instilling a mid 19th century hardscaped experience. Decorative furniture resembling the geometry of the gear, which powered the mills will be along the north canal, and the penstocks. Important meeting points are highlighted with a wooden decking.



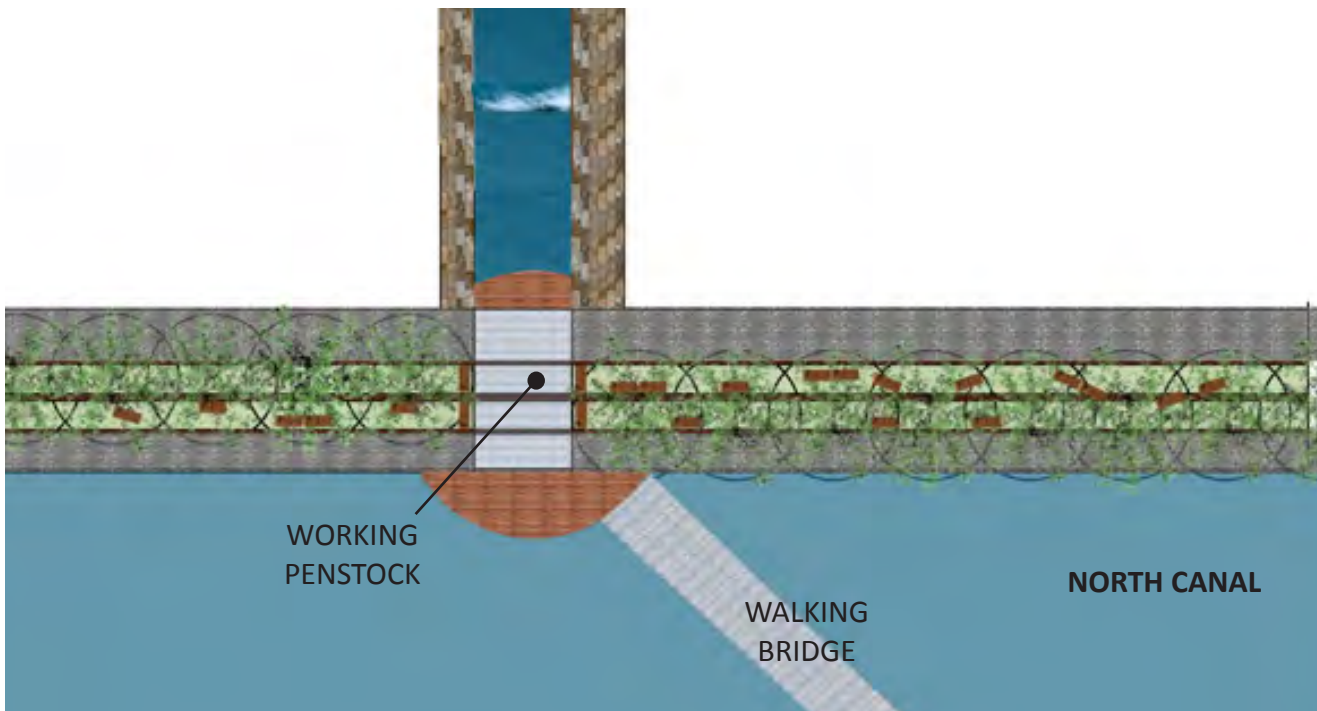
Master Plan showing our interventions and the opening of the penstocks to bring water through the island as it had in the industrial age. The plan also shows new interventions on the canal such as bridges and water levels.



By using the island and canal we could extend the connection between the State Heritage Park and the rest of the island. By using the penstocks as pedestrian corridors, a direct connection between the canal the Merrimack river is created.



Heritage State Park Intervention, inspiration drawn from the gears of the penstock. Waterfalls occur at intervals along the canal path, emanating from a penstock-inspired gathering area.



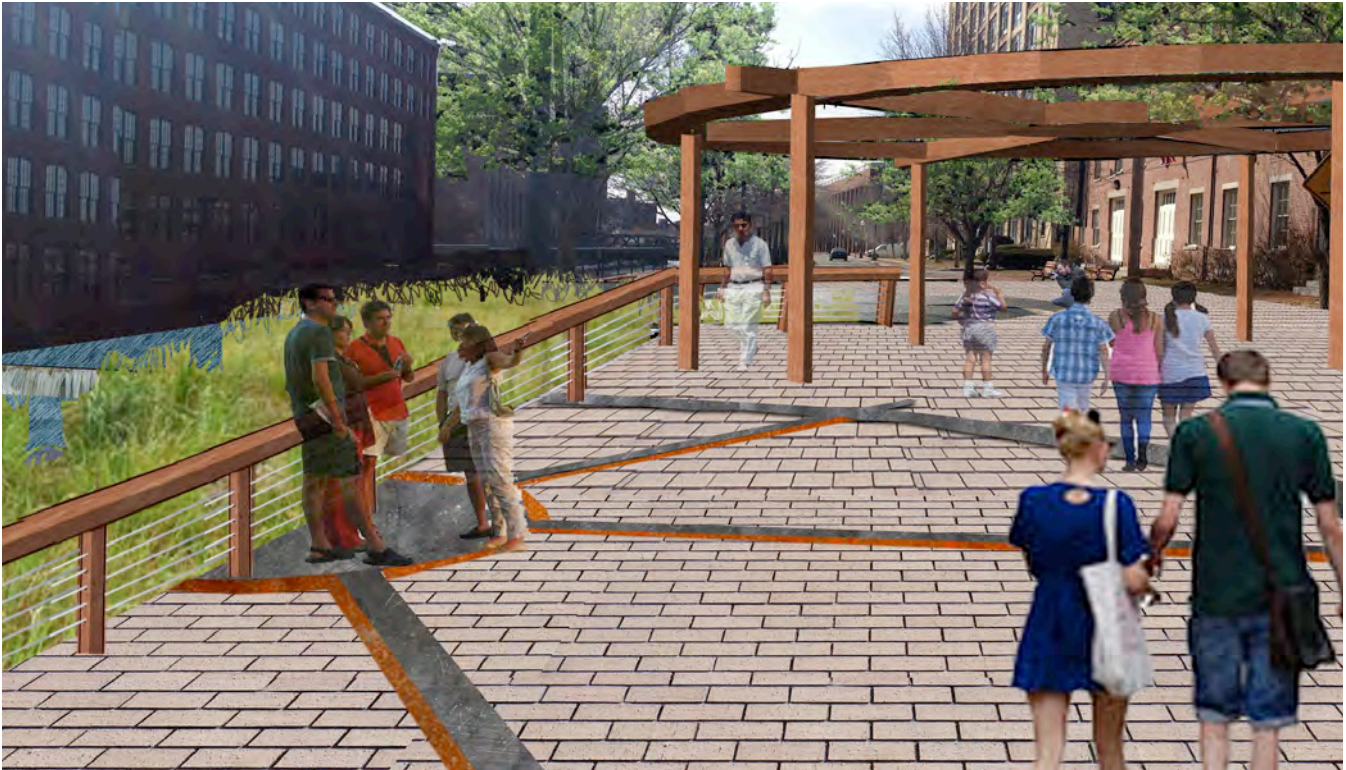
An aerial view of a working penstock and daylighted inlet.



These sections begin to illustrate where waterfalls occur, as well as the spatial qualities of proposed outdoor gathering spaces and renovated mill buildings.



Slicing through the island gives pedestrians a direct view corridor from the canal to the Merrimack River. Visitors can walk along the newly day lit pen-stocks and experience the new island.



Design interventions create a better connection between the State Heritage Park and the canal. This perspective shows a successional vegetative canal front and new spaces inspired by the penstock gear.



By renovating and remodeling the canal, visitors are allowed to interact with the canal interior and water.



Successional plants mark the industrial rail corridor. Outdoor furniture has been designed to remind visitors of the old mills and gears. Excavating the existing Mill Building dissects the old architecture. Daylighting the pen-stocks will show visitors the old waterway which connects the Canal to the Mer-rimack.

Reinterpreting Stephens Pond

Stephen Sanborn

The Arlington Mills was once a major producer of worsted and wool. At the turn of the 20th century their business was thriving, which can still be seen today with the massive mill buildings which still stand. To represent the companies that were once here I used the mill buildings along with colorful, twisting walls to represent the forms that the machines made when making the worsted and wool. These twist in and out to create pocket areas where you can sit and rest. By preserving a naturalistic landscape, I contrasted the Industrial Revolution with the history of the Pennacook Tribe, the Native Americans who lived in the Lawrence area before the city was established.





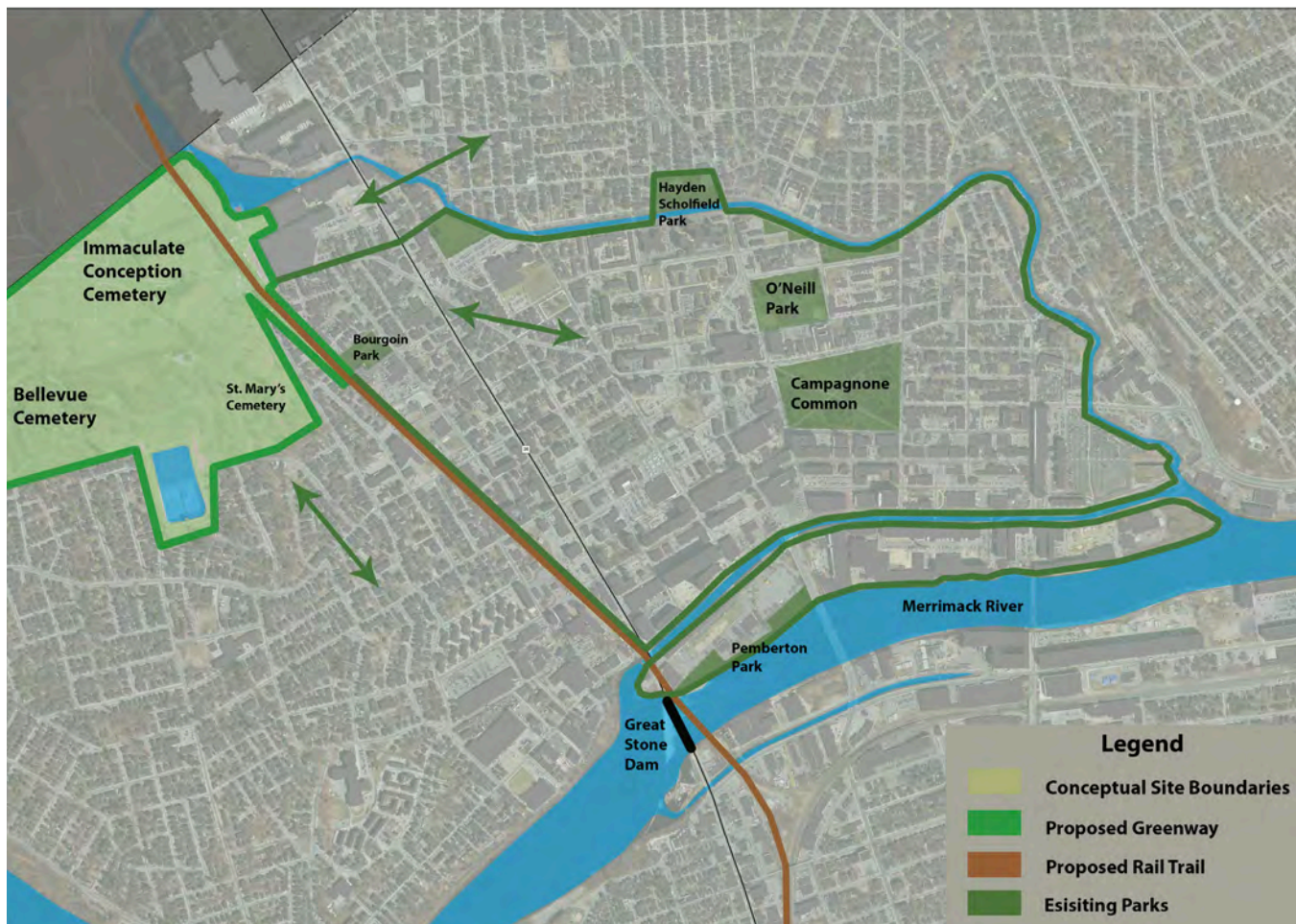
Lawrence Cemeteries as Cultural Landscapes

Sean Reginer and Jay French

We chose the Rail Trail as a focus corridor because of the historical significance the freight line had and the industrial expansion it helped create. We also wanted to expand connections from the neighborhoods into the cemetery that the rail corridor travels past. This will take advantage of the views that overlook the city from the cemetery and create a connection to Lawrence’s Labor history.

During the industrial boom of Lawrence the The Manchester Lawrence Railroad line was finished in 1849, transporting local freight and passengers. As the industrial age slowed down, and companies moved elsewhere or went out of business, the demand for the rail line also diminished. By 1999, the entire rail line was abandoned. A few towns where this line goes through took advantage of this opportunity and provided the communities with a rail trail connecting surrounding neighborhoods and towns. The rail trail where it cuts through Lawrence could provide a beautiful loop for the northern part of the city connecting the Merrimack River walk, Spicket river green, and the rail trail.

This design redefines the rail trail and greenway to include the cemeteries as a public space. We have created an access point at the Manchester Street Park and also proposed a loop path through the cemeteries that will allow people to travel past and locate burial sites of the Pemberton Mill Disaster. Many of the burial sites have been weathered or damaged over time, making them difficult to find.

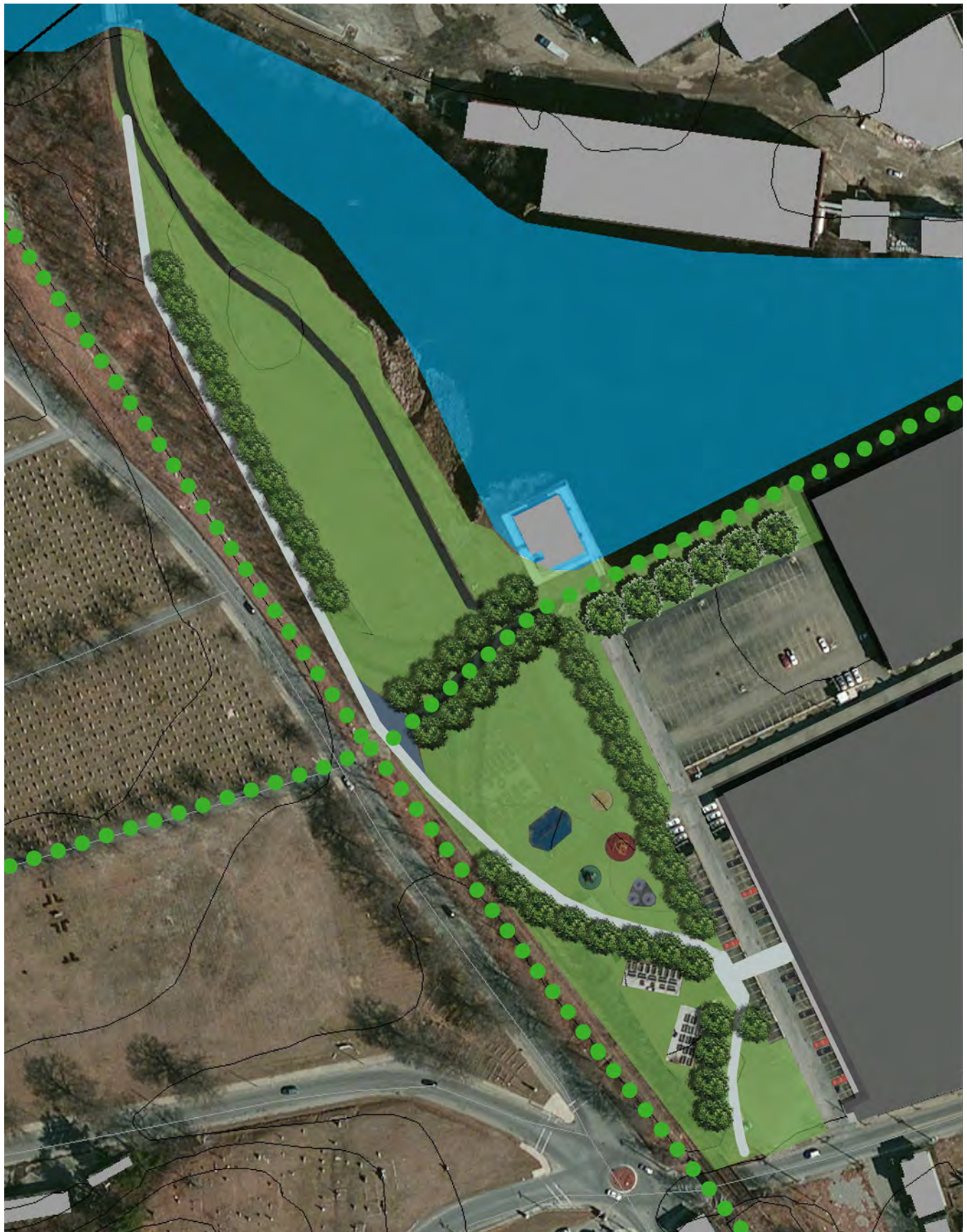






The proposed Rail Trail for Lawrence would not only provide a full greenway loop, but it would also connect the neighborhoods of the city and surrounding towns. The Bellevue Cemetery abuts the trail, which is the largest green open space in Lawrence. The cemetery provides excellent views of the Merrimack River, the Mills, the Great Dam, and provides a sense of peace and quietness from city life. In addition, the cemetery plays an important role in local history, as it is where many of the victims are buried from the Pemberton Mill tragedy, one of the worst industrial disasters in the country.

The Rail Trail and Cemeteries are located at a different grade than Manchester Street Park, which provided an interesting challenge when designing our site. This grade change is shown in section on the following pages.



Manchester Street Park is a successful space, but lacks visibility from the road and a strong connection to the proposed Rail Trail. We have proposed extending the park to the street to improve visibility from adjacent roadways. We strengthened the connection to the Rail Trail and Cemeteries by developing entrances to the Park from the Rail Trail, and formalizing an entrance from the Rail Trail to the Greenway.