

ABSTRACT

Title of Thesis: REVITALIZING A CITY BY COMMEMORATING THE PAST:
A MUSEAM OF INDUSTRY AND WATERFRONT
REDEVELOPMENT IN NORWICH, CT

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In the 1800's, much of the social, cultural and economic identity of industrial towns was influenced by the contributions made from manufacturing mills. The “Golden Age” as the time is termed, introduced these mills that represented American energy and technology and initiated the prosperous growth of present day cities. At the turn of the 20th century, the expansion of industry during the Industrial Revolution transformed the demand of hydro-powered mills to coal fired steam mills, which instigated the decline of the economy associated with these mills. As a result, mills became delinquent, underutilized and forgotten as symbols in the American heritage. When the function and purpose of the mills transformed, so did the evolution of the city that was economically dependent on milled industry. This thesis is an investigation into the role of the mill and

introduces a Museum of Industry and Waterfront Redevelopment for the purpose of revitalizing Hollyhock Island, an important place in Norwich by commemorating its industrial past.

The site for this thesis is an island located in Norwich, CT formed by the Yantic River which was formerly occupied by the Falls Avenue Mill. The site's location is at the intersection between the historic district to the north and the commercial district to the south. These two sides, Downtown and Westside, represent the inequality that Norwich's economic stagnation endures. Evidence of this is illustrated in the historic downtown where buildings are becoming vacant and underutilized structures as the economic focus is diverted south to the commercial strip along West Main Street.

This thesis will introduce a Museum of Industry (an adaptive re-use and new construction project) and the redevelopment of Hollyhock Island encompassing Norwich's harbor and waterfront. The purpose of this thesis is to define the role of the island as an interface between the two districts and identify the prominent location as a 'place' for leisure activity. The challenge to this thesis will be in the connections it makes both physically to the site and culturally to the local economy and the tourism industry.

REVITALIZING A CITY BY COMMEMORATING THE PAST:
MUSEUM OF INDUSTRY & WATERFRONT REDEVELOPMENT,
NORWICH, CONNETICUT

by

Bradford Lee Reed

Thesis submitted to the Faculty of the Graduate School of the
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of the requirements for the degree of
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This thesis is dedicated to my parents who are ultimately the greatest teachers in my life and without their support I would not be where I am today.

I would like to thank my fellow architecture students for their criticism and help throughout my architectural education. I wish them all the best in their future.

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“Less good from genius we may find
Than that from perseverance flowing;
So have good grist at hand to grind
And keep the mill a-going”

Keep the Mill A-Going by Thomas Dunn English

INTRODUCTION

Norwich became the commercial and industrial center of Connecticut in the late 19th century. Of the two economic bases, industry pronounced its dominance with the creation of over a dozen mill complexes within the city.¹ Due to the prominence of the mills, Norwich prospered into the early 20th century earning the title, “The Rose of New England”². Mills provided not only the financial structure for the city but a social and communal aspect as well. Much of the physical structure of Norwich evident today reflects this era. Congested housing and business areas along hillsides leading up from the river continue to form the basic structure of the Norwich community. Several mills have been adaptively re-used for other functions, others remain dormant and sadly others have been demolished, victims of the cities urban renewal. The rich heritage that these mills provided for Norwich deserve to be preserved in a museum of industry such as, Sturbridge Village, CT, the location for a farm museum and Mystic Seaport, CT, which emphasizes the states maritime history.

In 1992 the Planning Department of the City of Norwich commissioned a “Mill Enhancement Project” group (MEP)³ that would recognize the historic, economic and social values of the mills. A report was presented to the state historic commission detailing potential re-use possibilities as well as feasibility studies. Also included in the report was baseline data regarding structure and recommendations for the necessary zoning revisions, economic incentives and potential uses. The commission accepted the feasibility study and through the Certified Local Government Program⁴, awarded the city a grant, matched by a grant from the city’s community development office to prepare the first phases of a study.

Falls Avenue mill's site is one of the mill sites recognized for its potential as a tourist attraction as well as the showcase for a "flagship development"⁵ in Norwich. The historic landmark has commanded the attention of the local community as well as tourists who travel through Norwich on their way to the Mohegan Sun and Foxwoods casinos. Because of the prominent location on Hollyhock Island between downtown Norwich and Westside, the Department of Planning for Norwich has re-zoned the site to support waterfront redevelopment. Development of the site will compliment existing entertainment infrastructure such as American Wharf, a miniature golf center, and Heritage Walkway. In order to advance the economic development of the city the role of the urban and architectural intervention is paramount when defining one goal which is to create a multi-use destination.

This thesis will investigate the site of the Falls Avenue mill and the adjacent site both located on Hollyhock Island. The proposal is for a new master plan and a Museum of Industry that will rejuvenate the site as well as the local economy. The master plan will propose a waterfront park that allows pedestrians to circulate around and onto the island away from the dangers of vehicular traffic. Also, this pathway provides a solution for connecting the various park systems along the waters edge. This flagship development serves to integrate the historic character of the urban context and introduce a contemporary architectural complement in order to strengthen a local and tourist destination.

¹ Kahn, Renee: i

² Bacon, L.W: Title of book

³ Kahn, Renee: i

⁴ Kahn, Renee: i

⁵ Smyth, Hedley: p.19

CONTEXTUAL HISTORY AND BACKGROUND

Location/Background of Norwich

Norwich is a city located in the Eastern Uplands of Connecticut. Part of New London County, the area is characterized by many hills and winding rivers. This geology greatly affects the area because the development of the city is subject to the natural surroundings. Norwich was also the first town established in the Eastern Uplands because it sits at the confluence of the Thames, Shetucket and Yantic Rivers. Utilizing the rivers' hydro-power as well as adding another mode of accessibility that no other town in New London County could compete with, gave Norwich an advantage over trade and commerce. Relatively small compared to the neighboring towns, Norwich boasts a population of 36,117 people, according to the 2000 census, and is contained within 28.34 square miles (18,750 acres).¹

The extensive river system influenced the development of the town by allowing large ships to travel inland and deposit goods at the harbor. Dredged by smaller vessels at the turn of the 19th century, the Thames River was the only river with a channel deep enough to reach approximately 20 miles inland from the source of the river, which starts in Norwich, to the mouth of the river, which empties into the Long Island Sound. Norwich was settled and rapidly developed in the 1700's because of the importance of the colonial seaport. Quickly becoming the center of commerce in Connecticut, ship building and warehouse storage contributed to the "urbanization"² of one of the first five cities incorporated into the state of Connecticut.

By the late 1800's, Norwich was at the peak of development due to the prosperous shipping industry and now, because of two railway lines the

¹ Kahn, Renee: i

² Page, Ralph: p. 10

Norwich/Worcester line and the Central Vermont line, flourished in the mill industry. Milled industry thrived throughout the early 1900's because the three rivers gave Norwich an advantage over the other mill towns due in large part to the hydro-electric power. Norwich's wealth was evident in the affluent communities around downtown and was the subject of L. W. Bacon's book entitled, Norwich: the Rose of New England³.

As the 20th century continued to evolve, other modes of transportation such as the automobile and truck replaced water and rail transportation as predominant means of transporting goods. Those businesses dependent on the water based transportation were no longer significant.⁴ Vacant industries and brown fields became eye-sores on the cultural landscape of Norwich acting as permanent reminders of a once vital heritage. Today, Norwich has become stagnant in the economic growth and victimized due to urban renewal projects that bulldozed buildings without a planning strategy for replacement. Instead of a gateway for the Eastern Uplands of Connecticut, the city has blended into the many cities in the state that tourists pass-by or through. As an aside, the Norwich Department of Planning and Development has recently instigated a redevelopment plan and feasibility study for all the mills and waterfront developments (Appendix A). This study provides the basis for this thesis investigation.

³ Bacon, L.W: Title of book

⁴ Page, Ralph: p. 11



Figure 1: National vicinity map. [map, courtesy of the state of CT]



Figure 2: New England vicinity map [map courtesy of the state of CT]

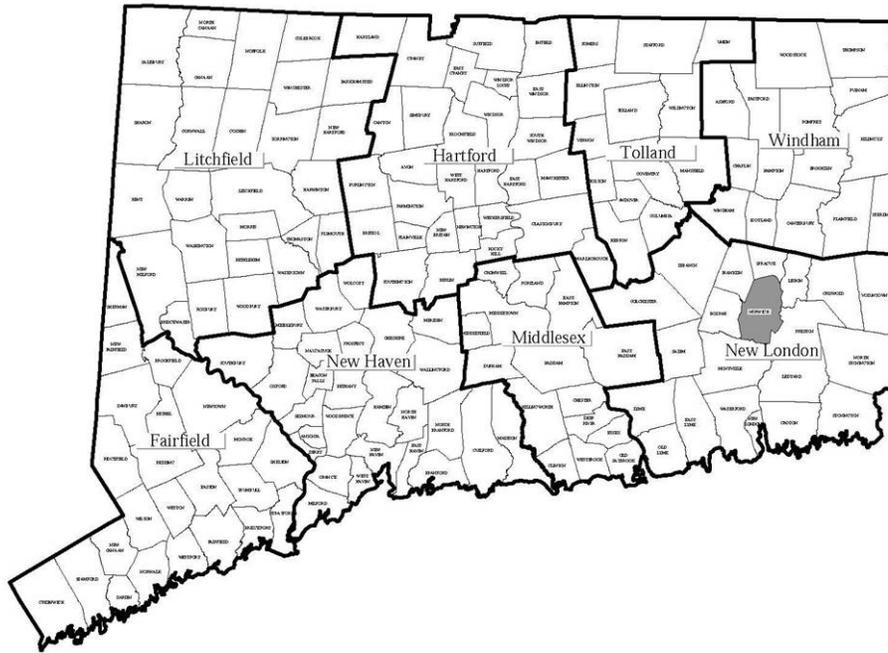


Figure 3: County and city map showing Norwich location [map courtesy of the state of CT]

Context Photos of Norwich, CT

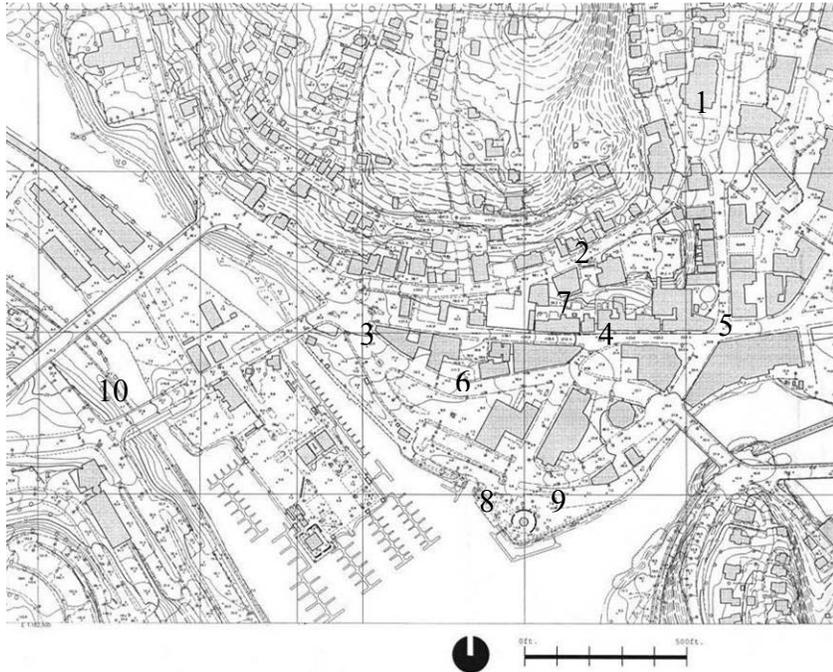


Figure 4: Context map for reference to pictures.



Figure 5: Photo of City Hall (reference 1)



Figure 6: Photo of eclectic European influence in Norwich (reference 2)



Figure 7: Photo of corner lot and one of the oldest buildings in Norwich built in 1607 (reference 3)



Figure 8: View down Main Street (reference 4)



Figure 9: View up Main Street (reference 5)



Figure 10: New construction as seen from the waterfront (reference 6)



Figure 11: Example of the mixed-use development in downtown Norwich (reference 7)



Figures 12 & 13: Photos of the riverfront park along the Thames (reference 8 & 9)



Figure 14: Photo of the American Ambulance Company building reflecting a modern intervention overlooking the site. (reference 10)

History of mills in Norwich:

Manufacturing growth in Norwich reached its peak from the mid-1800's to the early 1900's. Due in large part to the geographic location, manufacturing flourished because Norwich was the only city where vehicles could traverse to the adjacent sides of the Thames. The Thames River was just wide enough to discourage the attempt at a bridge crossing anywhere along the estuary stretch from Long Island Sound to Norwich. With the mercantile industry firmly rooted and exerting its primacy, this allowed Norwich to exploit the natural resource provided by the rivers to become one of the earliest industrial cities in the country.

Eastern Connecticut has a geologic formation suitable for a reliable flow of water to its rivers (fig. 4). Composed primarily of hard, metamorphic rock, the region receives heavy annual rainfalls that maintain a constant level and flow of water. These factors, combined with two rivers that boast the largest flow of any river system in Eastern Connecticut,⁵ helped contribute to the creation of one of the first large-scale production mills in Norwich, Yantic Falls. By the 1830's, Falls Mill on the Yantic included a nail factory, a large cotton mill, two paper mills, an iron factory and a rolling mill. All of these mills were absorbed by a larger company, the Falls Company, and by the 1860's, controlled mostly all the current of the Yantic River.

⁵ Kahn, Renee: p. 4

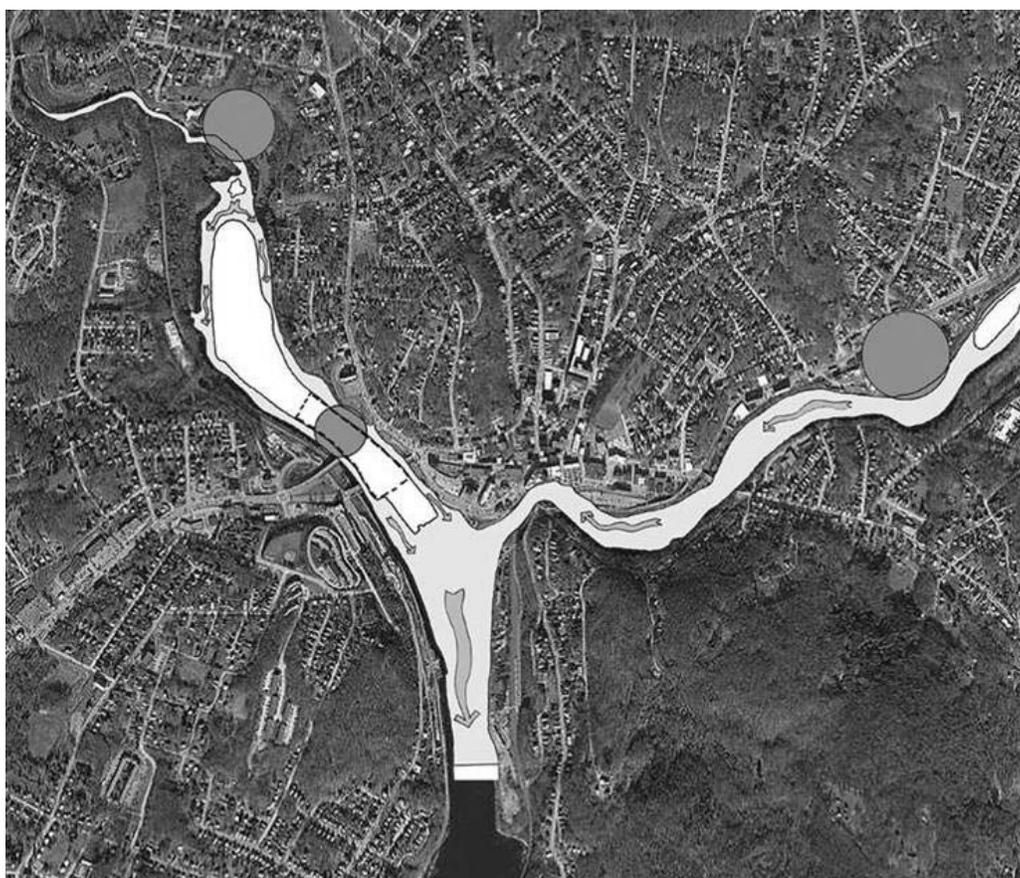


Figure 15: Diagram showing the flow directions of the rivers and mill locations.

The Shetucket River dominates the eastern edge of Norwich and during the same decade saw advancement into a manufacturing mill development when the Norwich Water Company was founded. This conglomerate of companies included the Shetucket Company, which produced cotton goods, the Chelsea Manufacturing Company, paper manufacturers, and the Norwich Bleaching and Calendaring Company, a textile finishing firm. However, the largest of these mills was the Greenville Industrial District (fig. 5, 6), which developed an adjoining community that housed the employees of the mill. The Yantic River and the Shetucket River hosted two of the larger industrial areas but many smaller mills expanded during the late 1800's such as the Clinton Woolen Mill, Williams

Flannel Mill, Turner Twine Company, and the Hubbard Paper Mill. With the help of rail transportation provided by the Norwich/Worcester line and Central Vermont line, Norwich soon became recognized as one of the leading manufacturing cities in the state.

Along with textiles and papers, Norwich was also the leading manufacturer of small firearms. Necessitated by supply and demand during the Civil War, the Hopkins and Allen Company (fig. 7, 8) and the Crescent Firearms Company established mills in Norwich. Quickly rising to become the third largest city in Connecticut, Norwich was the leading producer of single-shot shotguns during this time. This industrial development finally reached its apogee with the creation of the Ponemah Mill (fig. 9, 10), which is located upstream on the Shetucket River. Ponemah symbolized the confluence of architectural elegance and mill production while becoming the focal point of an idealized mill town created adjacent to the mill. This mill town, as well as the Greenville District, embodied the idea that Ponemah represented the center for that town's community employment, activities and social stability. Similarly, the other mills in Norwich embodied the same communal relationship with its constituents as Ponemah.

The future decline began in the mid-1900's as a newly completed railroad bridge was built that crossed over the Thames south near New London. Trains no longer provided the regular service to Norwich so the result became a decline in population and eventual decline of most of the milled industry in Norwich.



Figure 16: Greenville Mills- Atlantic Carton Corporation
 [image courtesy of the Feasibility and Planning Study]

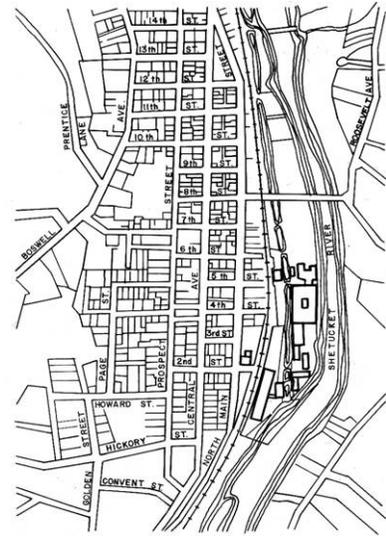


Figure 17: Greenville Mills- site plan
 [image courtesy of the Feasibility and Planning Study]

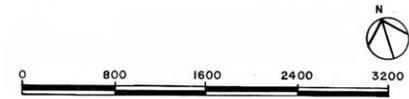


Figure 18: Hopkins & Allen Firearms Company
 [image courtesy of the Feasibility and Planning Study]

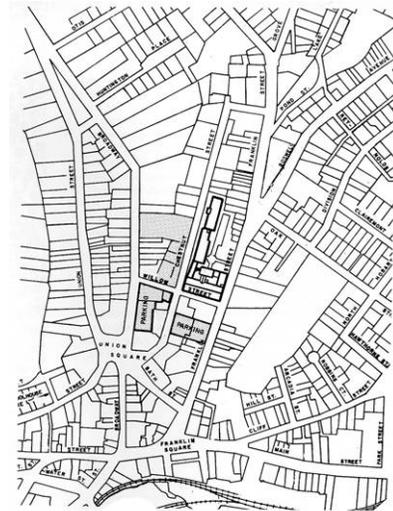


Figure 19: Site plan of Hopkins & Allen Firearms Company
 [image courtesy of the Feasibility and Planning Study]



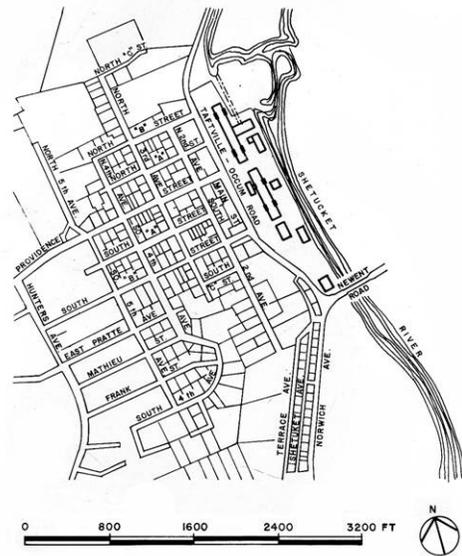


Figure 20: Ponemah Mills

[image courtesy of the Feasibility and Planning Study]

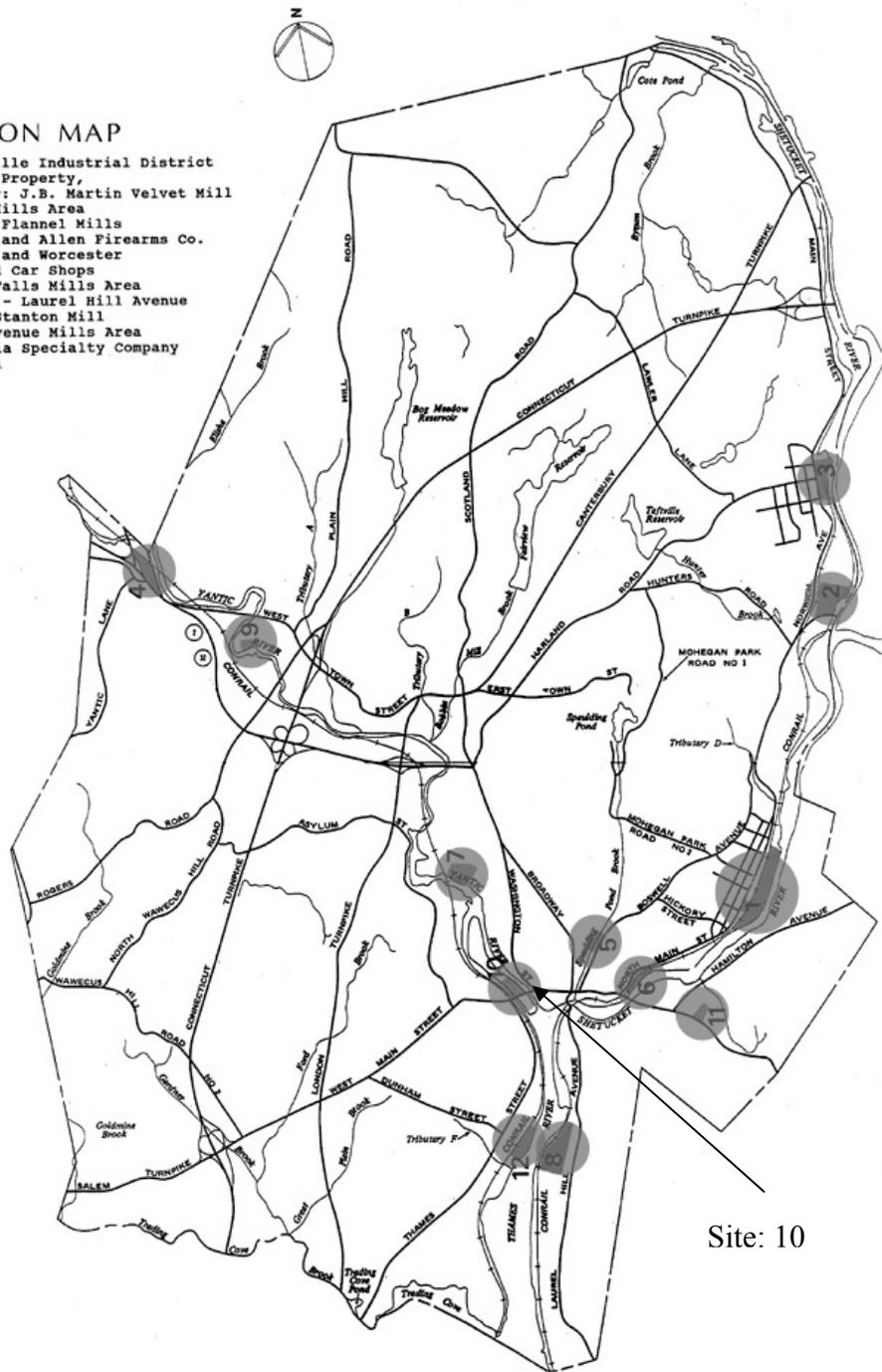
Figure 21: Ponemah Mills

[image courtesy of the Feasibility and Planning Study]



LOCATION MAP

- 1 Greenville Industrial District
- 2 Thermos Property, formerly: J.B. Martin Velvet Mill
- 3 Ponema Mills Area
- 4 William Flannel Mills
- 5 Hopkins and Allen Firearms Co.
- 6 Norwich and Worcester Railroad Car Shops
- 7 Yantic Falls Mills Area
- 8 Thermos - Laurel Hill Avenue
- 9 Turner Stanton Mill
- 10 Falls Avenue Mills Area
- 11 Trinacria Specialty Company
- 12 Dahl Oil



Site: 10

Figure 22: Location of mills in Norwich [courtesy of the Feasibility and Planning Study]

Flagship Developments

Definition: significant, high profile developments that play an influential and catalytic role in urban regeneration, which can be justified if they attract other investment.⁶

In Hedley Smyth's book, Marketing the City, he further defines the meaning of a flagship development by three criteria:

- a development in its own right, which may or may not be self-sustaining;
- a marshalling point for further investment;
- a marketing tool for an area or city.⁷

Ever since the 1980's, flagship developments have been an important factor in the commercial and policy backed decisions for a city. Ultimately a marketing strategy, flagship developments influence the way cities are portrayed and appreciated. The "test cases", as these developments can be related too, often do not have inherent value when first introduced in the city. Over a short period of time the value of the project is measured in how effective the marketing strategy was implemented and how well it attracts investors to the city. So in the beginning the primary purposes of a flagship development are to initiate urban regeneration through the application of urban design projects and to be used as a promotional tool.

The relevance of this information is that the proposed master plan is a marketing strategy for a key location in Norwich with the hope of attracting public and private investors to the city.

⁶ Bianchini, Dawson and Evans, 1990, 1992

⁷ Smyth, Hedley: p. 21

THE SITE

Historical Characteristics:

The Falls Avenue Mill site prospered during the nineteenth century because industry in Norwich was vital to the economic development. This mill, in particular, began its journey of usage when the first of three buildings was constructed in 1892. A Norwich based development company called the Industrial Building Company was appointed by the Norwich Board of Trade to attract industry into the city.⁸ Donated by the city, the land would soon see the southern building built consisting of three levels of wood post and beam construction with brick load bearing walls on the exterior. Before long the second of the three buildings was built to the north of the first building and connected by a brick wedge building, which became known as the ‘hyphen’⁹. When all the buildings were completed they totaled 46,480 sq. ft.¹⁰. Two additional buildings were planned for the site but never built.

Crescent Firearms bought the complex in 1918 only after the Industrial Building Company was dissolved. Through the 1930’s Crescent Firearms remained the leading manufacturer of the hammerless, single shotgun throughout the eastern part of America. Remaining mostly underutilized after Crescent Firearms disbanded, only spurts of industry have occupied this mill since then, including the Glencairn Yarn Mills, Pervel, and railway freight storage. As was the case for most of the industrial mills, the usage of this Falls Avenue mill declined as a result of the great depression.

In the fall of 2002 the half of the mill known as Building One caught fire resulting in everything associated with this building being destroyed. Remaining on the site is

⁸ Kahn, Renee; p. 75

⁹ Kahn, Renee; p. 75

¹⁰ Kahn, Renee; p. 76

building two and several maintenance facilities that constitute the mill complex. Building two is structurally intact except for the absence of the roof membrane because that was destroyed for the purpose of ventilation. Wood trusses are left exposed suggesting the pitch of the roof and the wood post and beam column and floor assembly remains intact. The majority of the renovation needed to restore building two is interior. Building two (fig. 14) will be restored and the remaining site left vacant by building one (fig. 13) and building 4 (fig. 16), will serve as the site for the Museum of Industry component of this thesis.

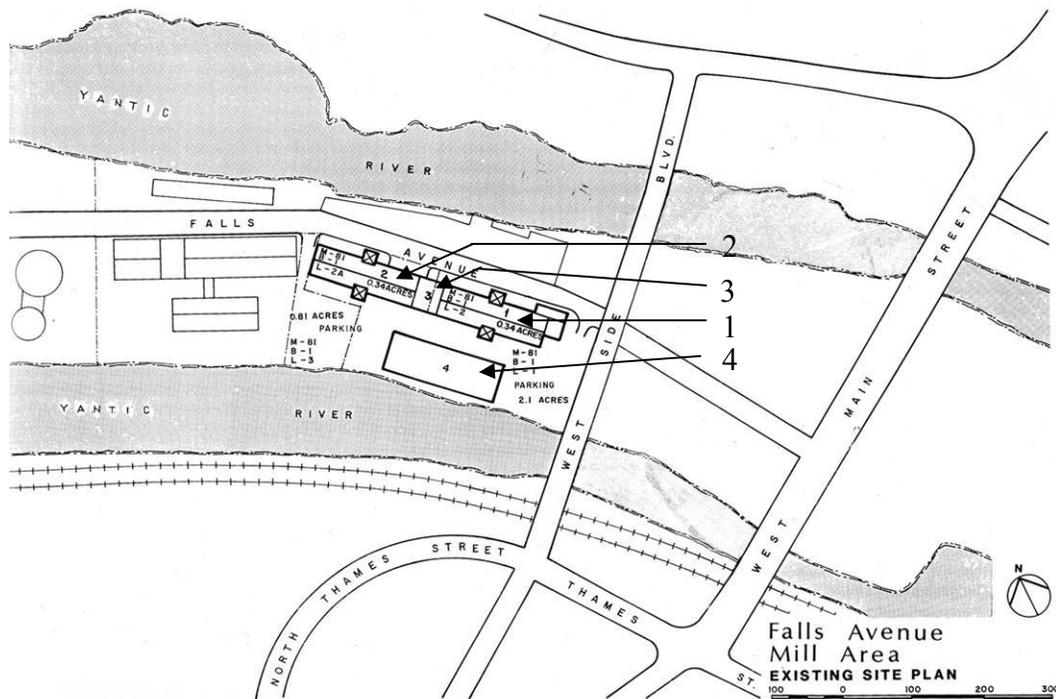


Figure 23: Existing mill site [site plan provide by the Feasibility and Planning Study]



Building #1, North Elevation

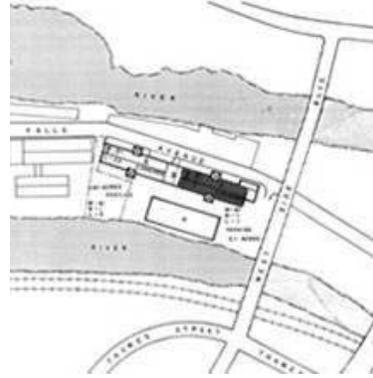


Figure 24: Building #1 of the Falls Avenue mill complex
[image provided by the Feasibility and Planning Study]

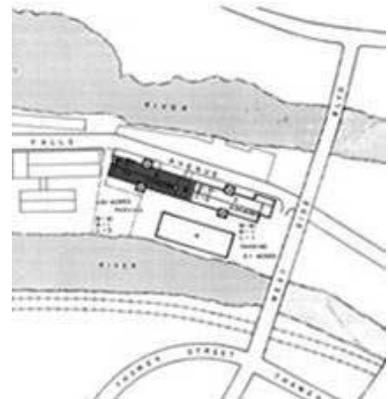


Figure 25: Building #2 of the Falls Avenue mill complex



Building #3



Figure 26: Building #3 of the Falls Avenue mill complex
[image provided by the Feasibility and Planning Study]

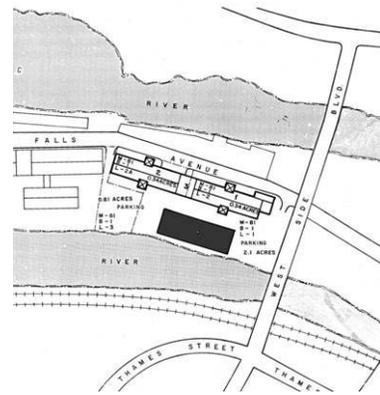


Figure 27: Building #4 of the Falls Avenue mill complex

Physical Characteristics

The site is located on Hollyhock Island at the edge of where the Thames River Estuary begins and the Yantic River ends. Oblong in its shape, the island is longer than it is wide measuring approximately 400 feet at the widest point and 250 feet at the most narrow point. The orientation of the island is roughly 45 degrees west of north, which gives it a northwest by southeast direction. Straddled by the Yantic River and terminated in the Thames River, proximity to the Thames River plays a vital role in the development of the island. These bodies of water provide the necessary infrastructure for small boats and sailing craft to travel up-river past the wharf, as well as riverfront park access for the local culture as well as visiting tourists. American Wharf constitutes most of the southeastern portion of the island and provides a fully equipped marina facility for large and small vessels. The Falls Avenue mill, which resides on the northwestern part of the island, is within a quarter of a mile of the wharf and directly accessible to the waterfront park system. Its physical proximity only enhances the vital economic connection to the community as well as the accessibility connections.

Bisecting the island are two bridges that provide access to and from the island either north into Downtown or south into Westside. West Main Street is the only direct connection with Hollyhock Island providing a connection for both pedestrians and vehicles. Made from site cast concrete, the infrastructure creates a division between the American Wharf area and the northwest side of the island. This is the only bridge however that makes a physical connection to the island by sloping down from Downtown and Westside. Also, while a connection is made to the island, a dilemma arises because the traffic direction is only one-way on this street traveling north. In order to circum-

navigate the island, one must use the second bridge over Hollyhock Island, which is Sweeney Bridge. Sweeney Bridge is located to the west of West Main Street. This bridge is an elevated bridge, constructed of the same site cast concrete material, but does not provide any connections to the island other than structure. Route 82 or West Side Blvd. provides southbound traffic uninterrupted access over the Yantic River. There are three lanes of one-directional traffic on both bridges (fig. 17) and the space framed on the island by these two structures is dominated by temporary RV and boat storage. The only complement to the isolated space is a historic mid-rise office building with a mixed-use retail ground floor.

The island represents a man-made in-fill edge and the Yantic River exists as a natural edge to which more efficient connections must be provided. The connections that must be made are important because Hollyhock Island also lies in a valley bordered by steep residential developed hills to the north, Jail Hill, and a commercially developed hill to the south, Mt. Pleasant. Softening the edges created by the physical presence of the river and the island is a vital element acknowledged by this thesis in order to create a greater sense of community between the districts in Norwich.

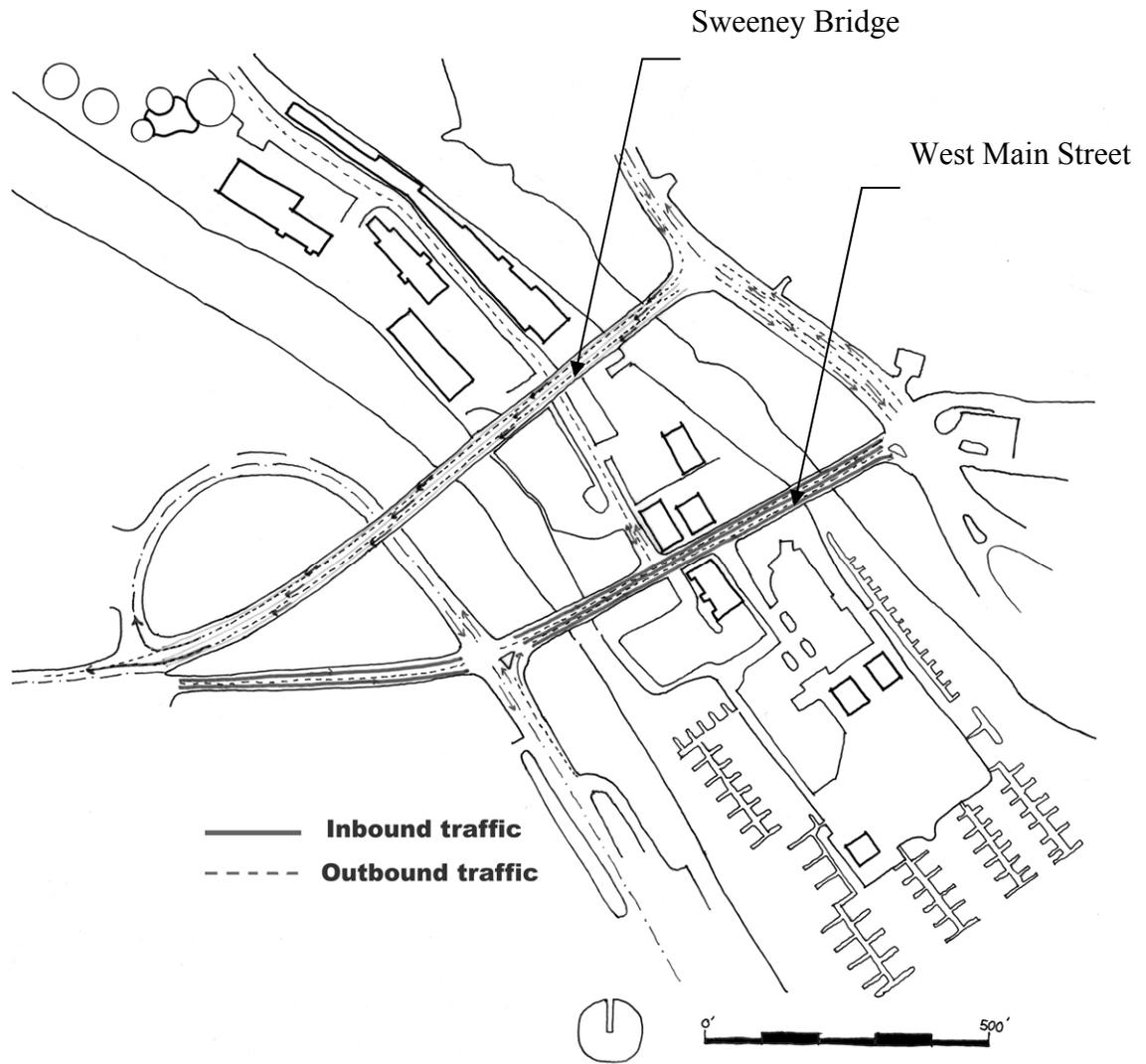


Figure 28: Diagram showing existing traffic condition. One-way traffic going north on West Main Street and one-way traffic south over Sweeney Bridge.

Site Analysis



Figure 29: 4000m x 4000m aerial photo of Norwich, CT [image provided by Terraserver.com]



Figure 30: 1000m x 1000m aerial photo of Norwich, CT [image provided by Terraserver.com]

Existing Buildings and Conditions

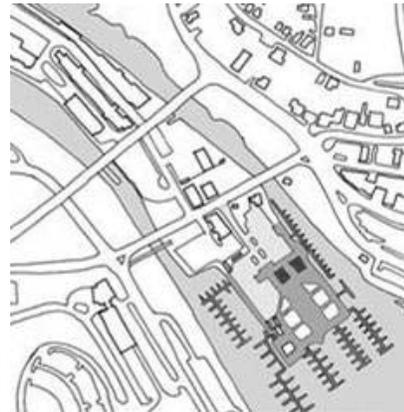


Figure 31: American Wharf and docks



Figure 32: American Wharf



Figure 33: Restaurant and pool facility



Figure 34: Docks during the summer

Figure 35: Wharf in the summer

[image provided by Ameri-Group Inc.]



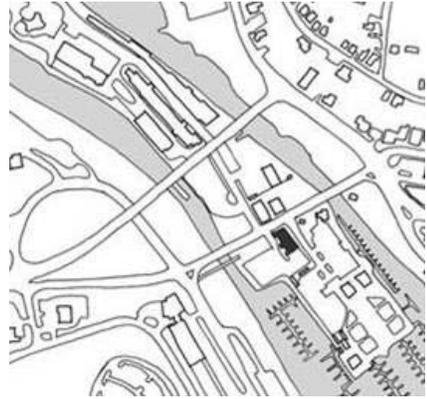


Figure 36: Residence Inn

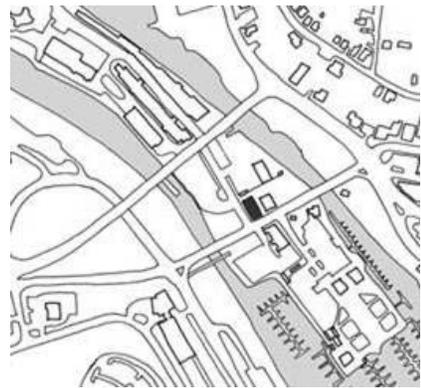


Figure 37: An historic office building, recently converted into a mixed-use building with retail

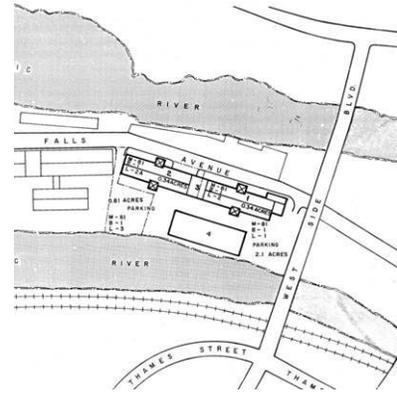


Figure 38: South elevation of mill (building 2)

Figure 39: Key plan referencing buildings shown in photos



Figure 40: Northwest elevation of building 2



Figure 41: Aerial view of building 4, which was added later in the development.



Figure 42: A warehouse structure was added later in the development. Not part of original mill complex.



Figure 43: View of mill site from the south bank. Sweeney Bridge is on the right of the image.



Figure 44: View of Hollyhock Island's marina and existing conditions. West Main Street begins on the right of the image.



Figure 45: Falls Avenue, approach to mill



Figure 46: Falls Avenue looking back from the mill

Analytical Diagrams



Figure 47: **Connecting Communities**- this diagram illustrates the two districts within the city of Norwich that the Yantic River divides. The darker color is representative of Downtown while the lighter color represents Westside. The white strip of land between them represents the site. Important to note is the sizes of the districts represented. Downtown is indicative of the compact mixed-use community evident in historic small towns. Westside is much larger because that area represents the commercial strips that sponsor sprawled communities.

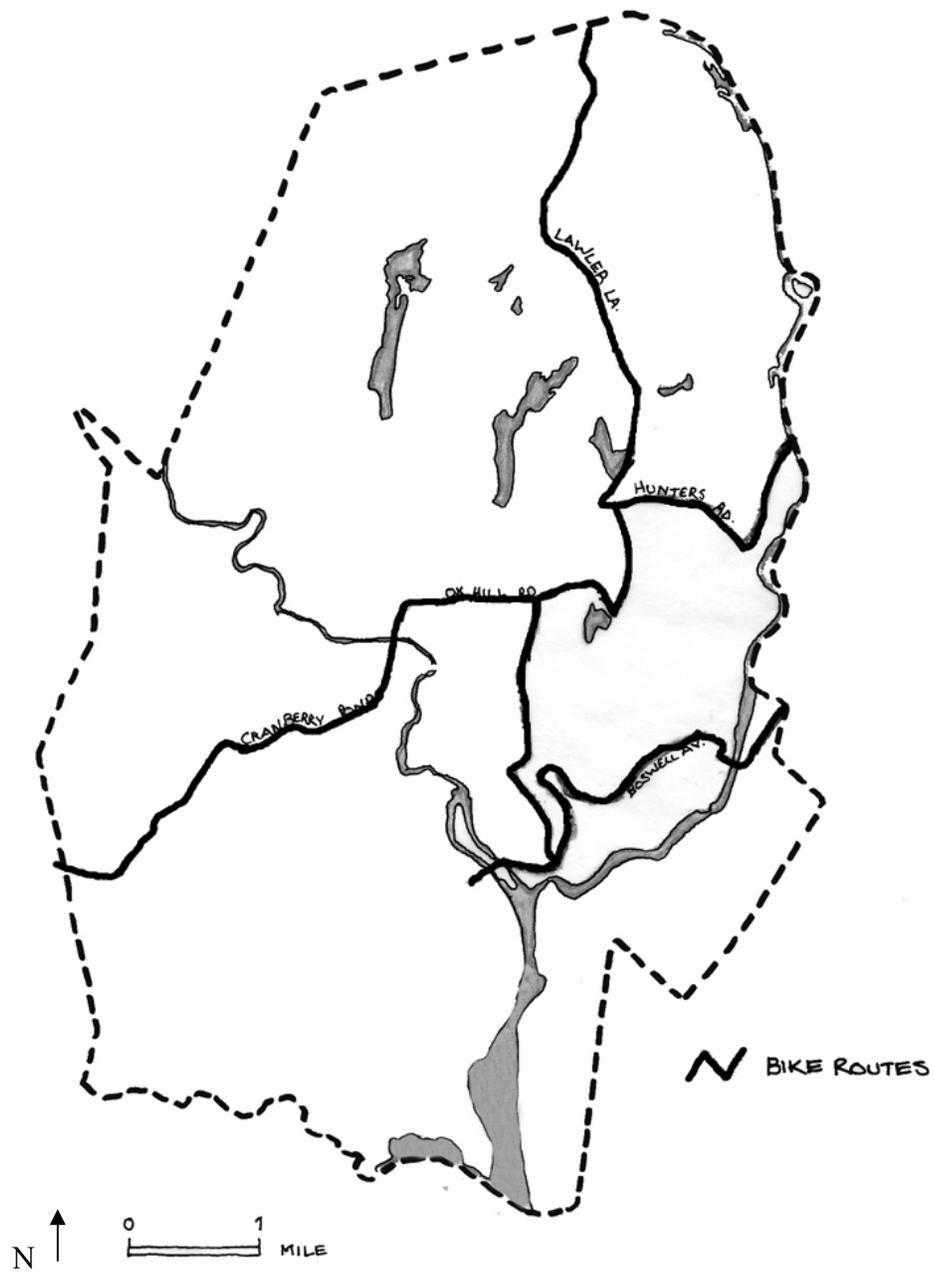


Figure 48: **Existing bike routes**- the county of New London has a safe bike campaign in proposition in order to provide designated travel paths for cyclists throughout it's cities. In Norwich, the city has designated safe bike routes through the historic neighborhoods and the historic downtown. This diagram illustrates those routes through the city and along the designated roads. The connection to Westside is not established so another component to this thesis is to establish a bicycle connection to Cranberry Pond Rd.



Figure 49: **Connected through green space-** Currently, the waters edge is identified by brownfields and vacant land. This diagram shows an idealized proposal that defines the waters edge for parks and green space. Yantic Falls Mill is located at the upper edge of the diagram and the Thermos Property is located at the bottom of the diagram along the Thames River. The city would like to connect these two mills with a riverfront park system as well as establish a common green for communal recreation.

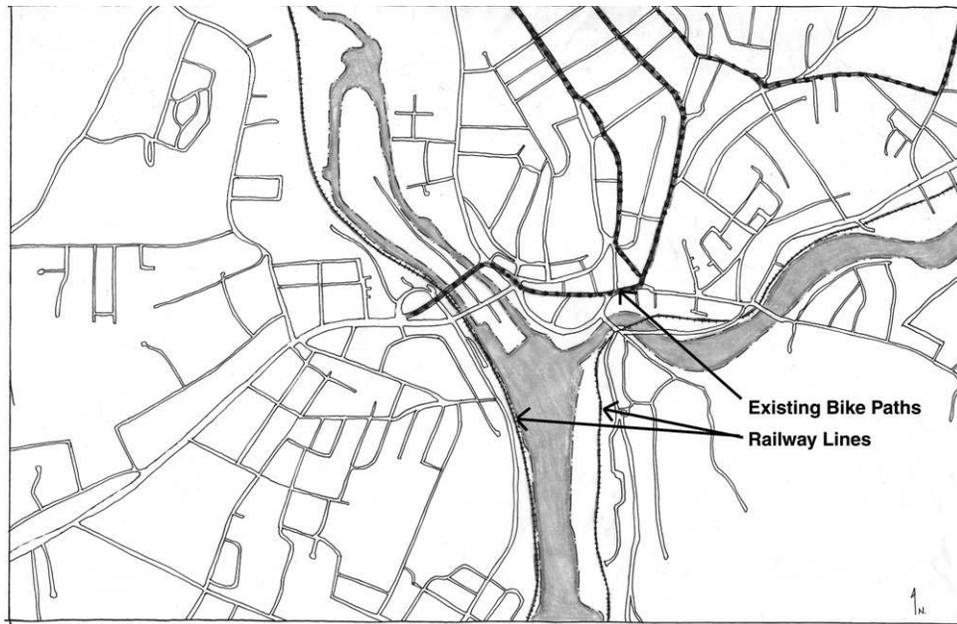


Figure 50: **Enlarged bike paths-** Currently the bike path discontinues as it reaches the edge of Westside because there is no extension through the commercial strip along W. Main St.



Figure 51: **Defining the edge-** Unlike most cities, Norwich has a distinct built environment and a distinct waterfront edge. On the north side of the Yantic River is an existing pedestrian trail called Heritage Trail. Ultimately the edge on both sides would want to reflect that landscaping in order to really define the edge of the water as green and open park land.

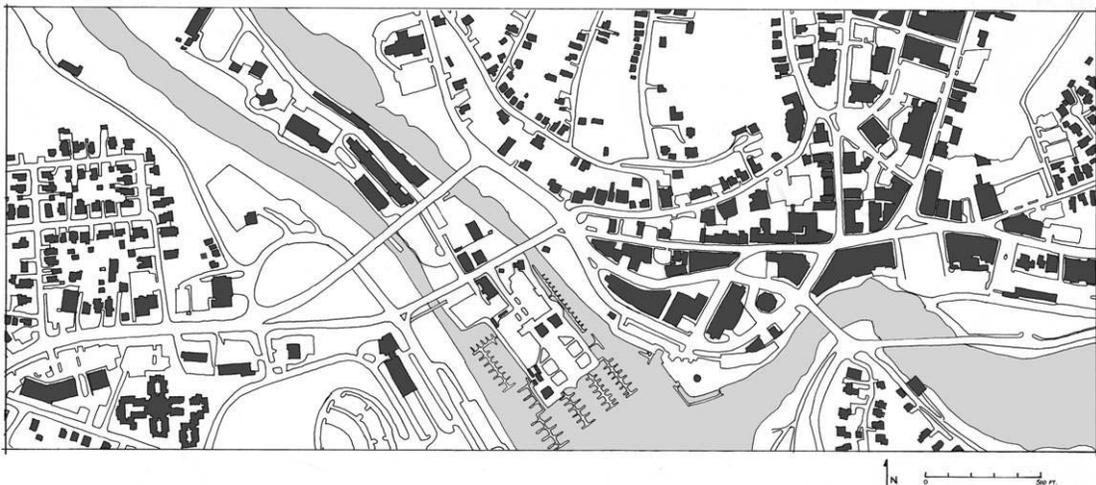


Figure 52: **Figure Ground-** this diagram clearly shows the underdeveloped areas around the site. The compact 'pedestrian friendly' streets of Downtown are lost in the 'spread-out' sprawl of Westside. The site on Hollyhock Island is littered with various buildings that have no relationship with each other or the adjacent communities.

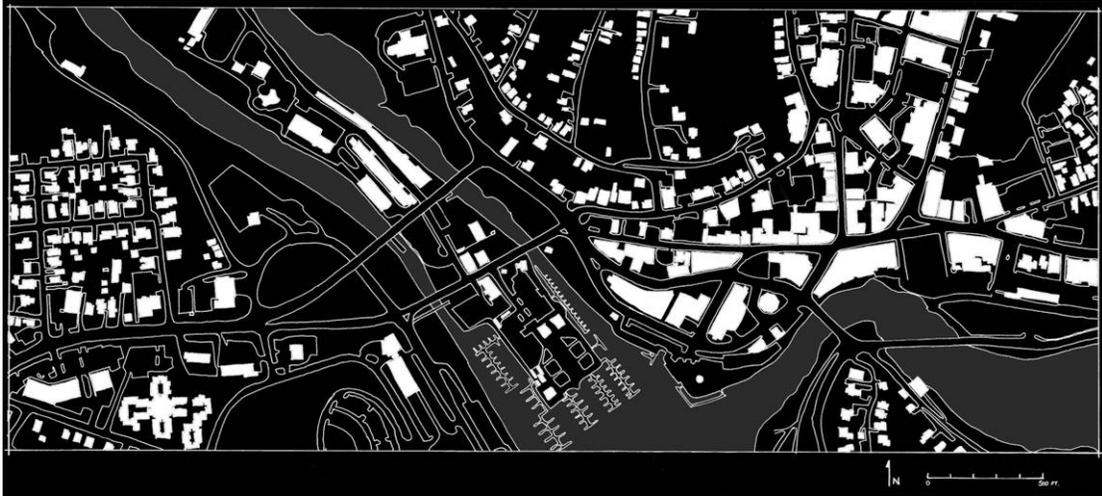


Figure 53: **Space Negative**- The amount of open space in and around the site is evident in this diagram. Other than the waterfront around the wharf and along the north and south river banks, much of the city is in need of some in-fill buildings that will weave the two sides of the Yantic River together.

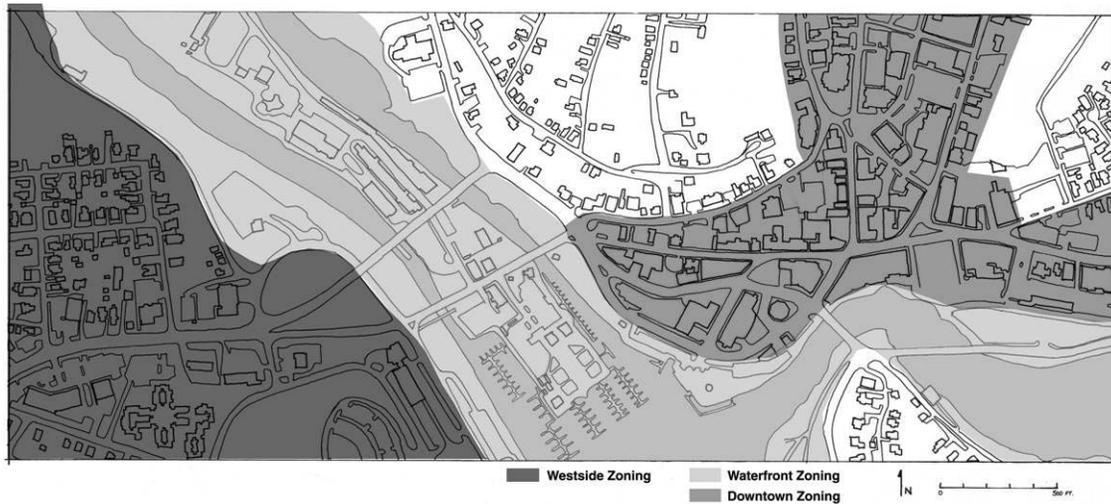


Figure 54: **Zoning**- The Department of City Planning produced a plan of conservation and development that designated this site, except for the waste water treatment plant, for waterfront and entertainment development. This diagram shows the extent of those zones.

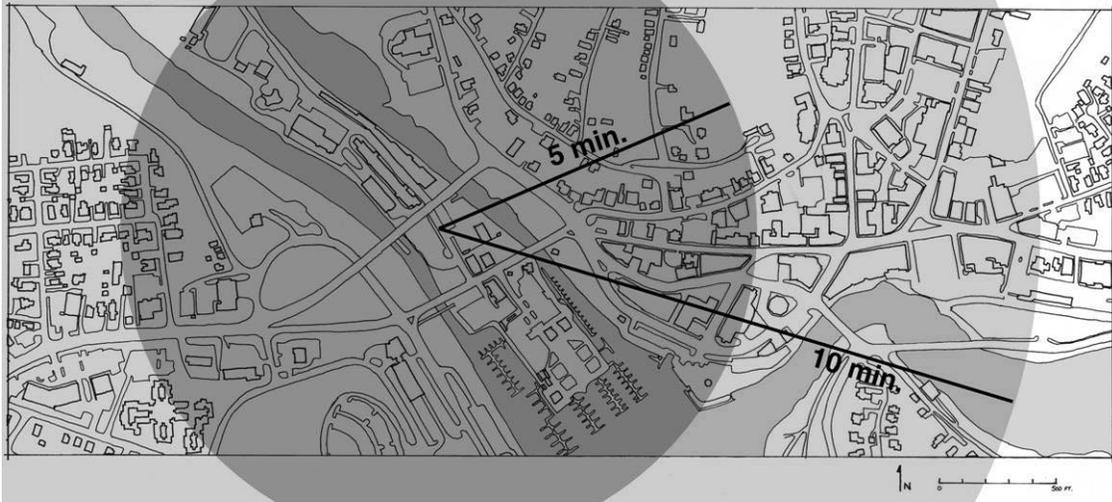


Figure 55: **Walking Radii**- This diagram illustrates the parts of downtown that are included in the walking distances of $\frac{1}{4}$ mile and $\frac{1}{2}$ mile. All of the historic downtown, waterfront and the city's train station is included within a 10 minute walk.

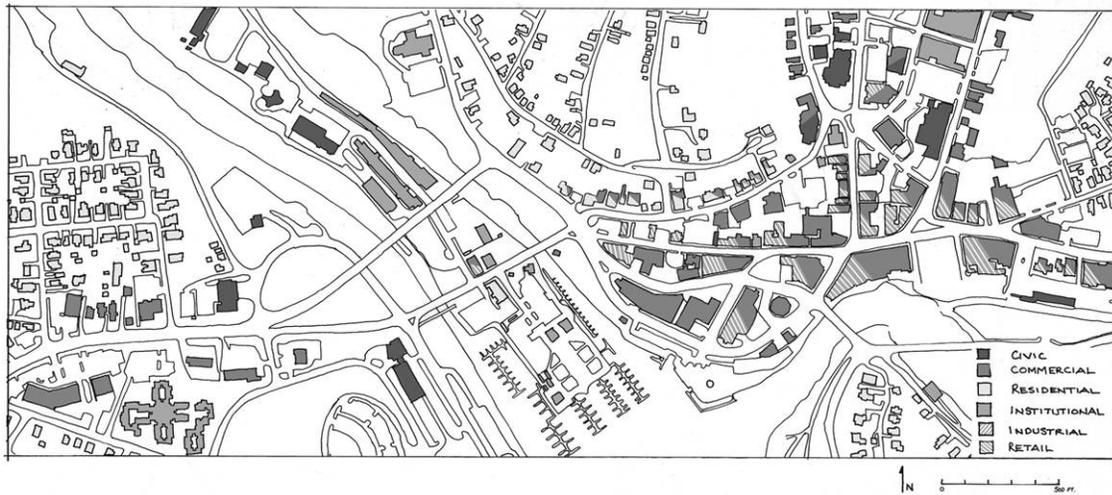


Figure 56: **Existing land-use**- Downtown Norwich is developed predominantly with mixed-use buildings. Parking is accommodated by three parking garages that are designated for public and private use. Commercial, single occupant companies, occupy the strip along West Main Street starting at the bottom left of the diagram.

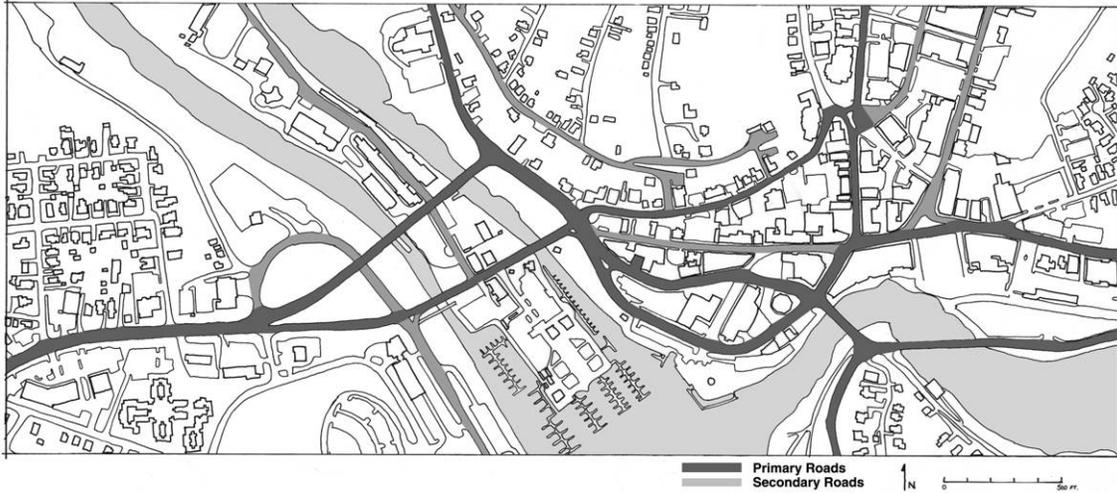


Figure 57: **Primary/Secondary roads-** The routes designated in a dark in this diagram are the primary routes that vehicles use to get around town. West Main Street (Rte. 82) travels southwest through Westside and onto Salem. Washington Street (Rte. 32) connects Norwichtown from the north to Downtown and then to routes 12 and 2, which continue south to Groton or east to Wesley, RI. The lightly colored roads connect various neighborhoods of Norwich and are usually slower speed areas.

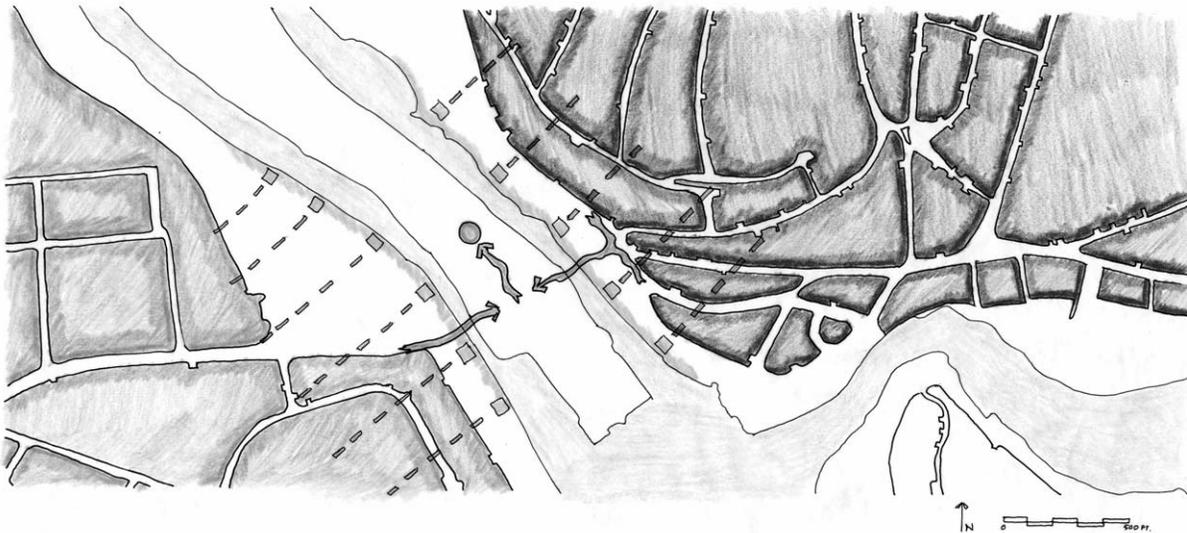


Figure 58: **Natural divider and connector-** The Yantic River serves as a natural divider between the Downtown and Westside. However, Hollyhock island can serve as the edifice to which a cultural and recreational facility connects the two sides.

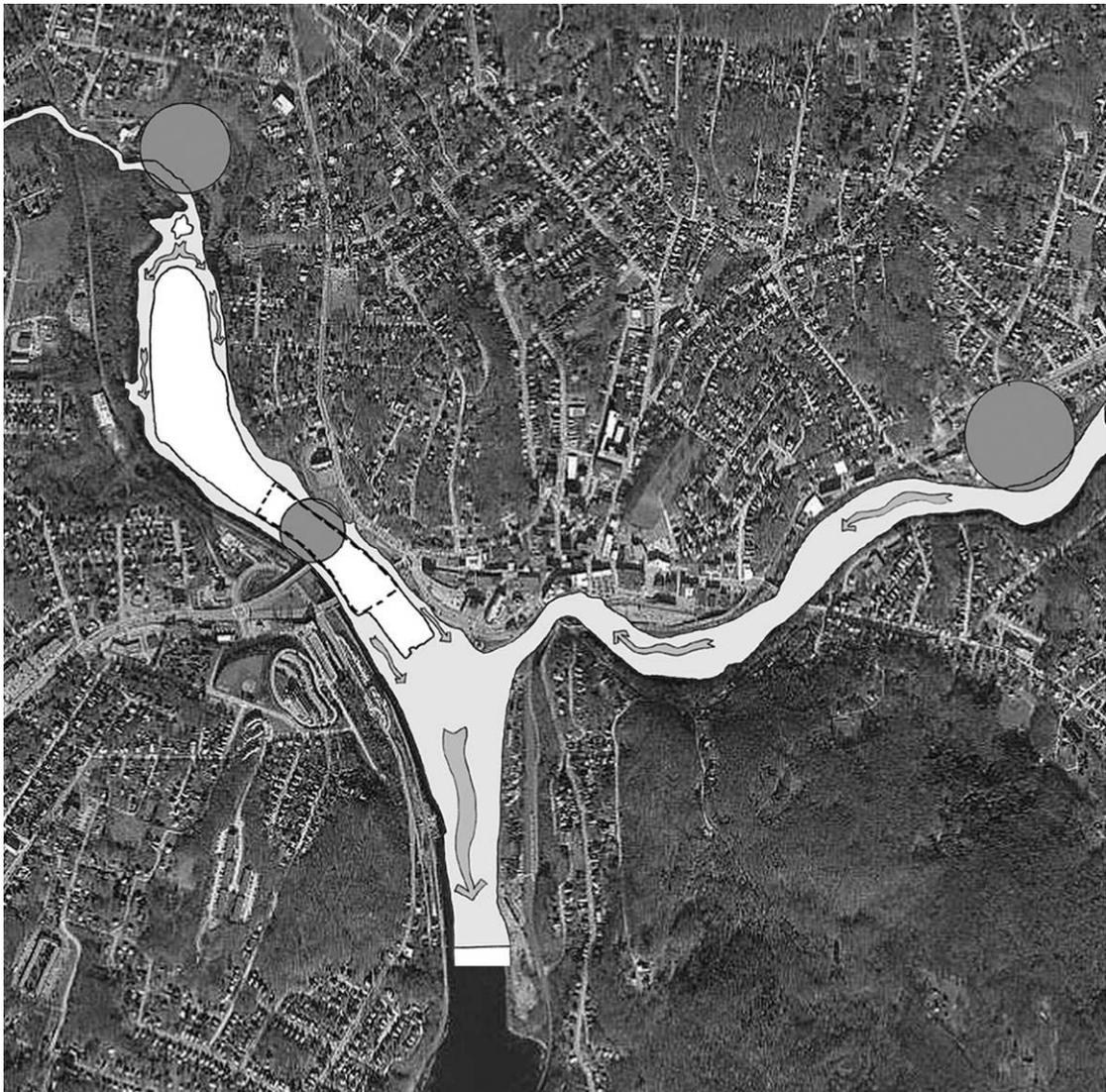


Figure 59: River flow diagram superimposed on an aerial photo to show the directional flow of the three rivers. The highlighted circles show the locations of the Yantic Falls Mill in the northwest, the Greenville District Mill in the northeast and the proposed thesis site in the center.

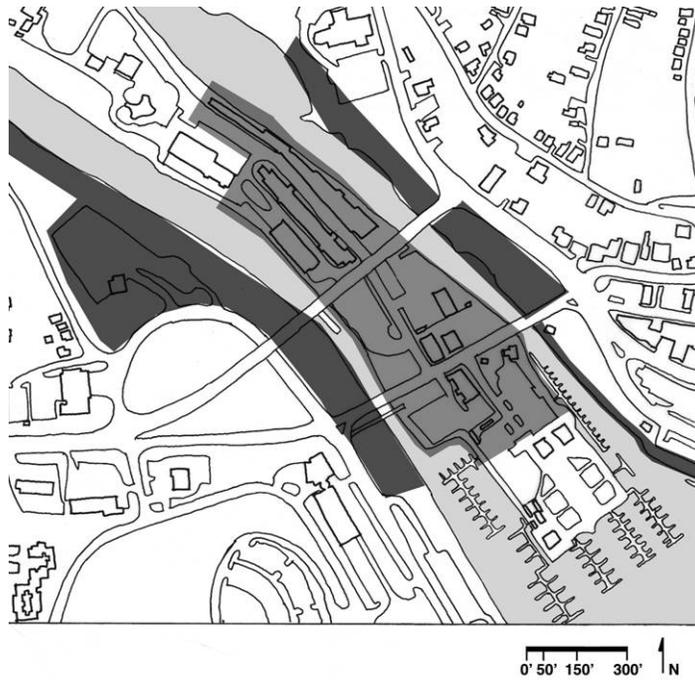


Figure 60: **Extent of site-** The boundaries of the site that this thesis identifies as buildable areas are represented by the lighter gray color. This area constitutes approximately 366,000 sq. ft. The darker areas constitute the extent of riverfront park system.

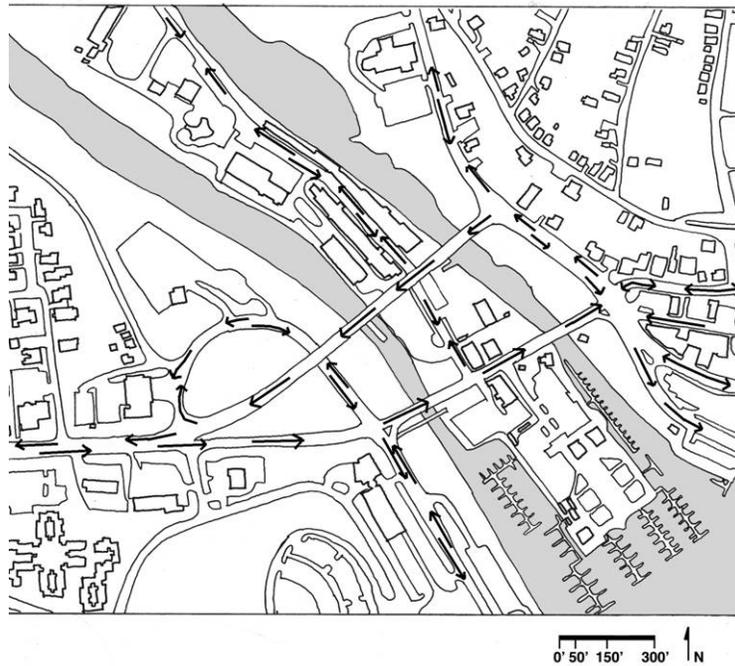


Figure 61: **Existing Traffic Patterns-** The traffic patterns presented in this diagram demonstrate the complicated weaving of infrastructure directions. There is a lot of mixture between one-way traffic and two-way traffic.

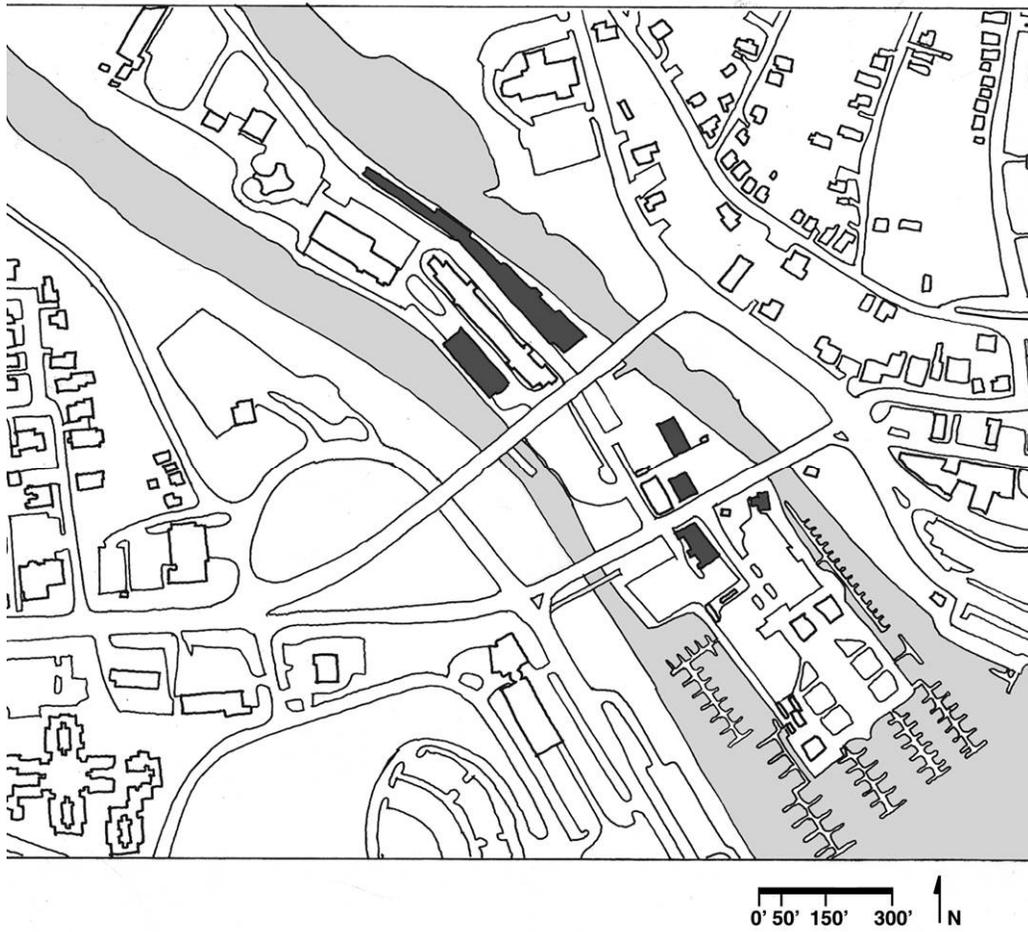


Figure 62: **Demolition-** The buildings designated with a dark color are potential candidates for demolition. Of the structures, all are storage sheds or warehouses except for the building furthest south in black, which is an extended stay inn (fig. 36). The remaining buildings are the mill (building 2), American wharf (fig. 31-35) and the historic office building (fig. 37) that has mixed-use retail on the ground floor.

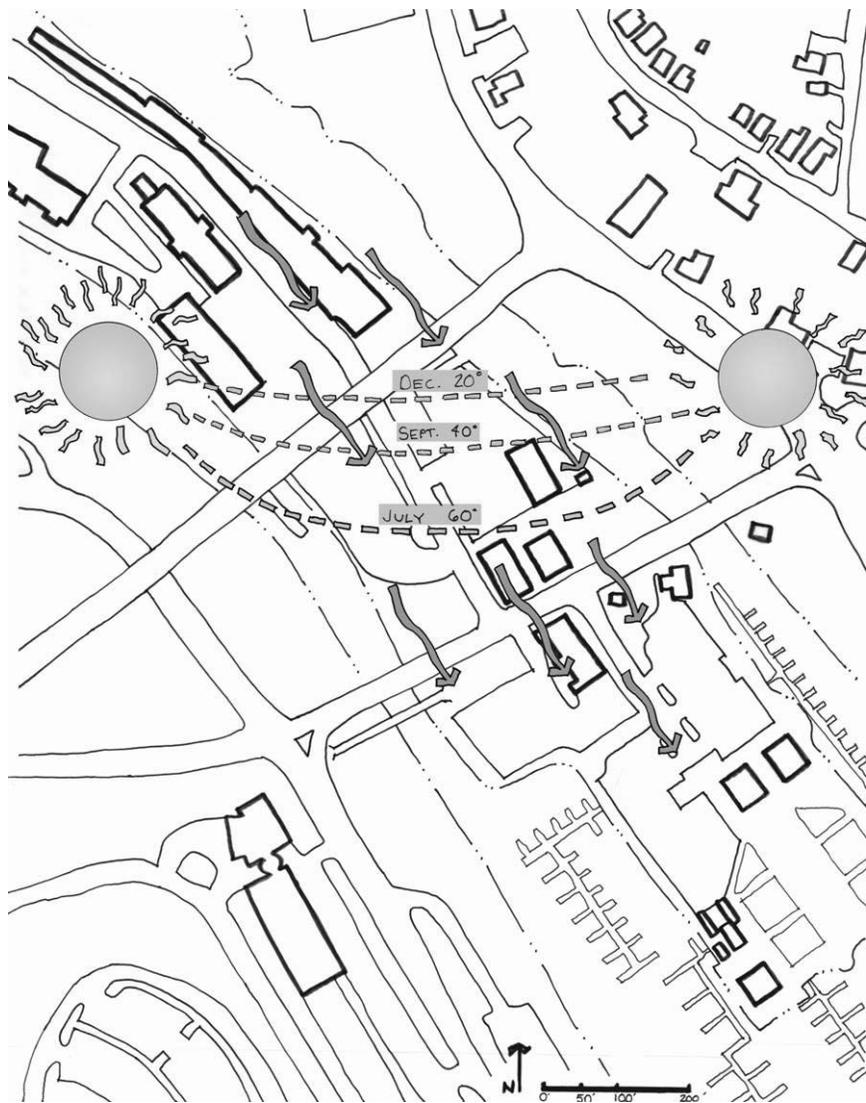


Figure 63: Sun angles and wind direction diagram. In July the sun angle is at 60°, in September 40° and in December the angle is 20°. The winds come predominately from the Northwest.

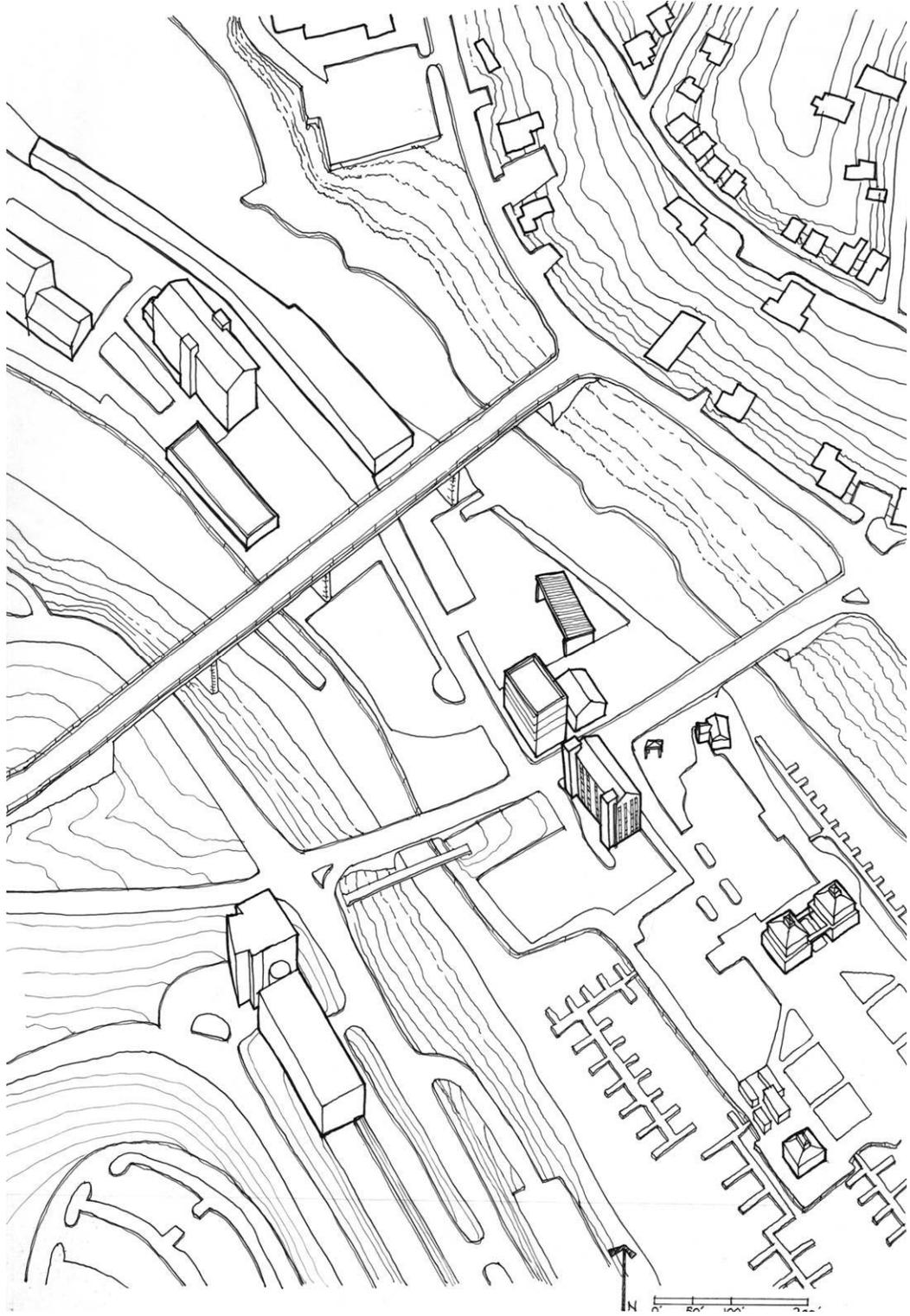


Figure 64: Axonometric of the site showing the existing spatial conditions on the site.

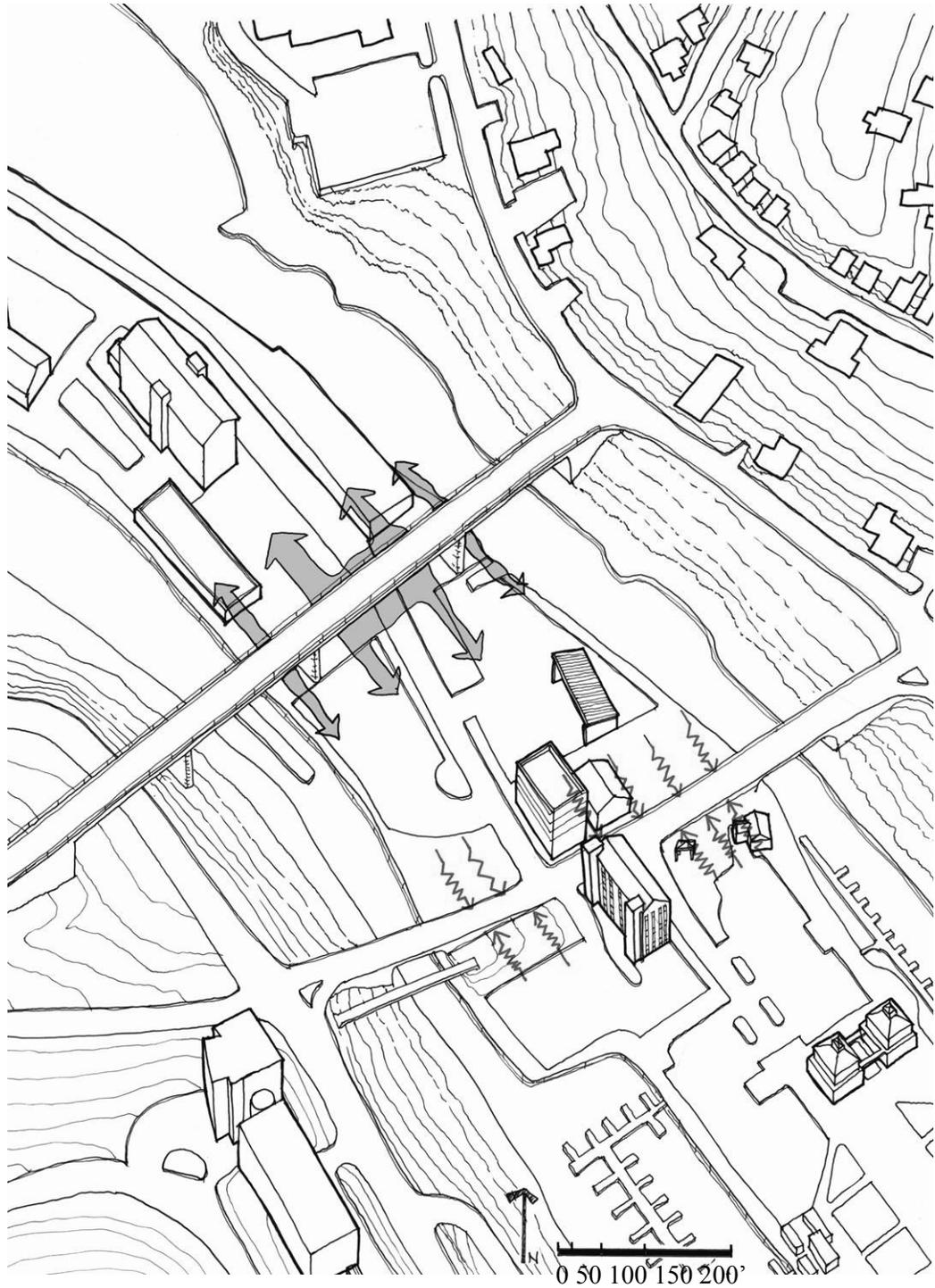


Figure 65: This diagram conveys the feeling you get when out on the site with respect to the two bridges. Sweeney Bridge floats above the site allowing for visual and physical passage under it thus creating more of a threshold for the museum component. West Main Street creates more of a physical boundary in that one must stop on either side before crossing the street and one must deal with the idea of address. Do you front the street or not? What urban condition does that give you?

Site Sections

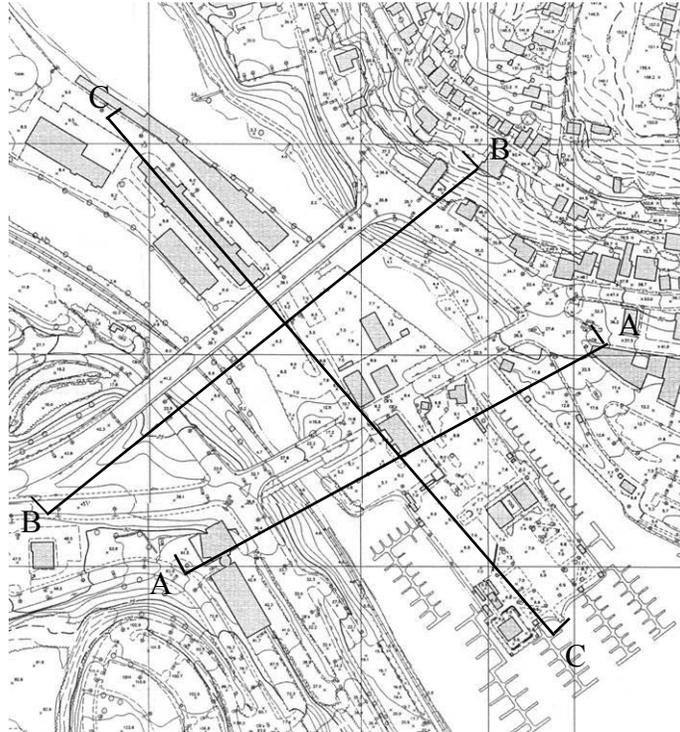


Figure 66: Key plan for section cut locations.

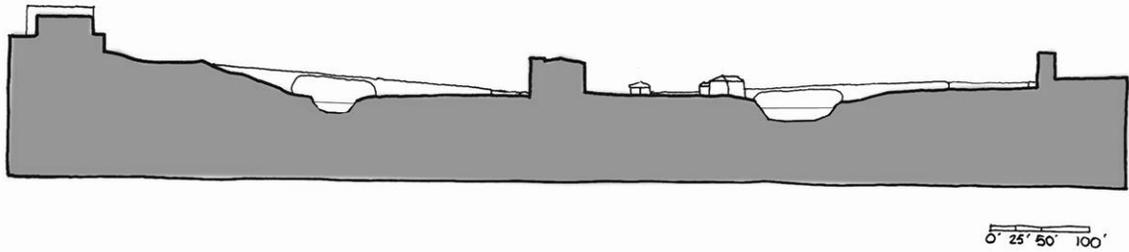


Figure 67: Section A-A, transverse section

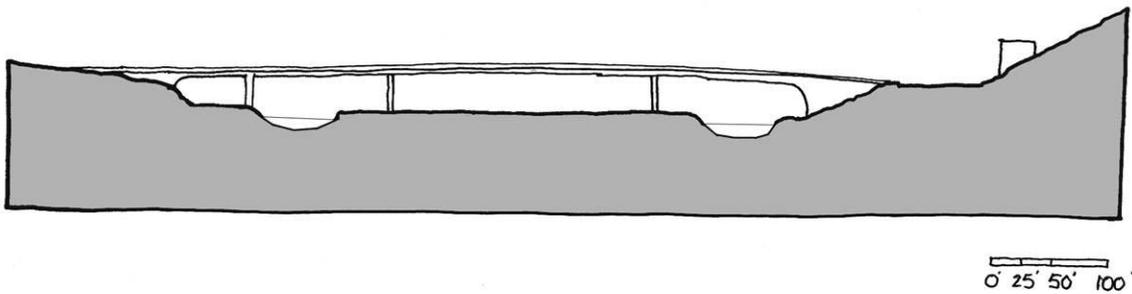


Figure 68: Section B-B, transverse section

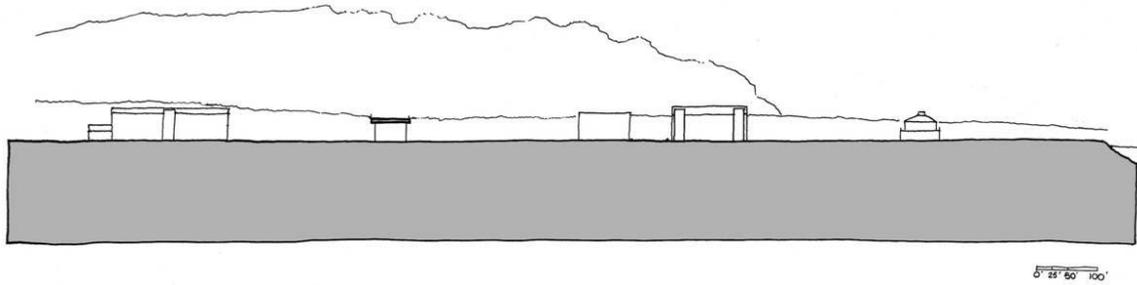


Figure 69: Section C-C, Longitudinal section

SITE INVESTIGATION

Goals and Approach:

Norwich, CT has always maintained the status of a flourishing economic city until the middle of the 19th century. From that time on, the industrial and mercantile prosperity once shared by Norwich residents has declined primarily due, in part to the loss of the industrial base and the competition of a growing commercial strip located along Rte. 82 south of historic Norwich with free parking and custom sites. This consumer's amenity, with regional accessibility, has attracted the attention of developers from downtown Norwich to the commercial strip. Allocating its financial resources toward commercial strip development, downtown Norwich and the waterfront has become underdeveloped and blighted. Creating a "flagship development"¹¹ for the island that incorporates commercial and residential land uses is one goal of this thesis. The other goal is a proposal to create a marquee cultural institution as the highlight to the redevelopment strategy, further enhancing the marketability of the island and the city. The two main approaches to this goal are to define the immediate site edges and waterfront edges as well as the connections by which the surrounding communities can utilize these amenities.

The buildable area on Hollyhock Island is approximately 366,000 sq.ft., and is framed by the water treatment plant to the west and the marina at American Wharf to the east. Partially occupied by the abandoned industrial mill complex, the proposal is to preserve part of the main mill (Building 2) and redevelop the remaining parcel of land for the use of a Museum of Industry and subordinate museum functions. Adjacent to the

¹¹ Smyth: p. 19

industrial site on the east side is land used for boat storage and general storage waste. With an existing four story mixed-use historic office building occupying part of this site, the remaining parcels of land will be developed as a mixed-use of retail, restaurants and residential buildings that will compliment the existing building and attract investors to the city. Finally the waterfront edges of the island should be designed to provide a continuous riverfront park system to identify the edge as an amenity. The waterfront stretches from Yantic Falls Mill to the northwest, to the Norwich train station along the Shetucket River to the east. Defined by either loosely eroded banks or well maintained retaining walls, the edge of the waterfront needs to be well defined using a common language of pedestrian paths, lighting, vegetation and furniture. This edge, as well as the immediate site edges, will help establish the flagship development.

Lastly, making strong connections with the communities that border the site to the north and south is an important goal. An approach to this goal has to be the addition of pedestrian bridges that link historic Norwich from the north and Westside from the south. These paths must not only serve as links to the island but extensions of the pedestrian circulation established by the reclamation of the waterfront amenity. Also, there is only one-directional traffic connecting with the island. North Main Street is one of the two bridges that brings traffic from Westside over to the Historic district. Sweeney Bridge is the other bridge over the island. This is an elevated bridge that transports traffic south from the Historic District to Westside without making a physical connection on grade with the island. One proposal is to investigate the existing traffic patterns and right-of-ways in order to advocate another solution to the problem of vehicular connectivity.

Design Problems and Issues:

Recognition that North Main Street provides the only physical connection to Hollyhock Island, analysis and redesign of the infrastructure is vital to the prosperity of this flagship development. The issue is that the connection between downtown Norwich and Westside occur over two bridges. Sweeney Bridge, which is the elevated bridge to the northwest, directs three lanes of traffic outbound from downtown Norwich to Westside. North Main Street, which is the only bridge that makes a physical connection to the island, directs three lanes of traffic inbound from Westside to downtown Norwich. Inadequate vehicular circulation is evident by the way traffic must circumnavigate through an elaborate system of u-turns and one-way streets. This inaccessibility results in visitors having to bypass a waterfront amenity because of confusion or frustration.

Pedestrians who want to use the island are subject to a route that is dangerous and forces them to circulate on a path away from the waterfront and adjacent to one of the busiest streets through Norwich. There are two different navigable sides to the Yantic River. On the north side there is an existing waterfront park that has become derelict due to misuse and inadequate circulation for pedestrians. On the south edge of the Yantic River is an unused section of the Central Vermont railroad line. Both of these edges are underutilized in their potential to be viable public amenities. The city of Norwich should take ownership of these properties and develop them with the hope of creating an extension to an existing Heritage Walking trail that links this industrial site with the Yantic Falls Mills site to the Northwest.

Finally, the proposal of a flagship development poses its own sets of issues regarding feasibility and circulation. The addition of a mixed-use development on this

site is an attractive solution for the economic prosperity of Norwich. However, what defines the thresholds into the site and what is the character of the street edge, both on North Main Street and on Falls Avenue? These two questions are the underlying problems associated with this type of development. Not only must this development sustain on its own, but it must also establish an identity for both the island and for future waterfront development.

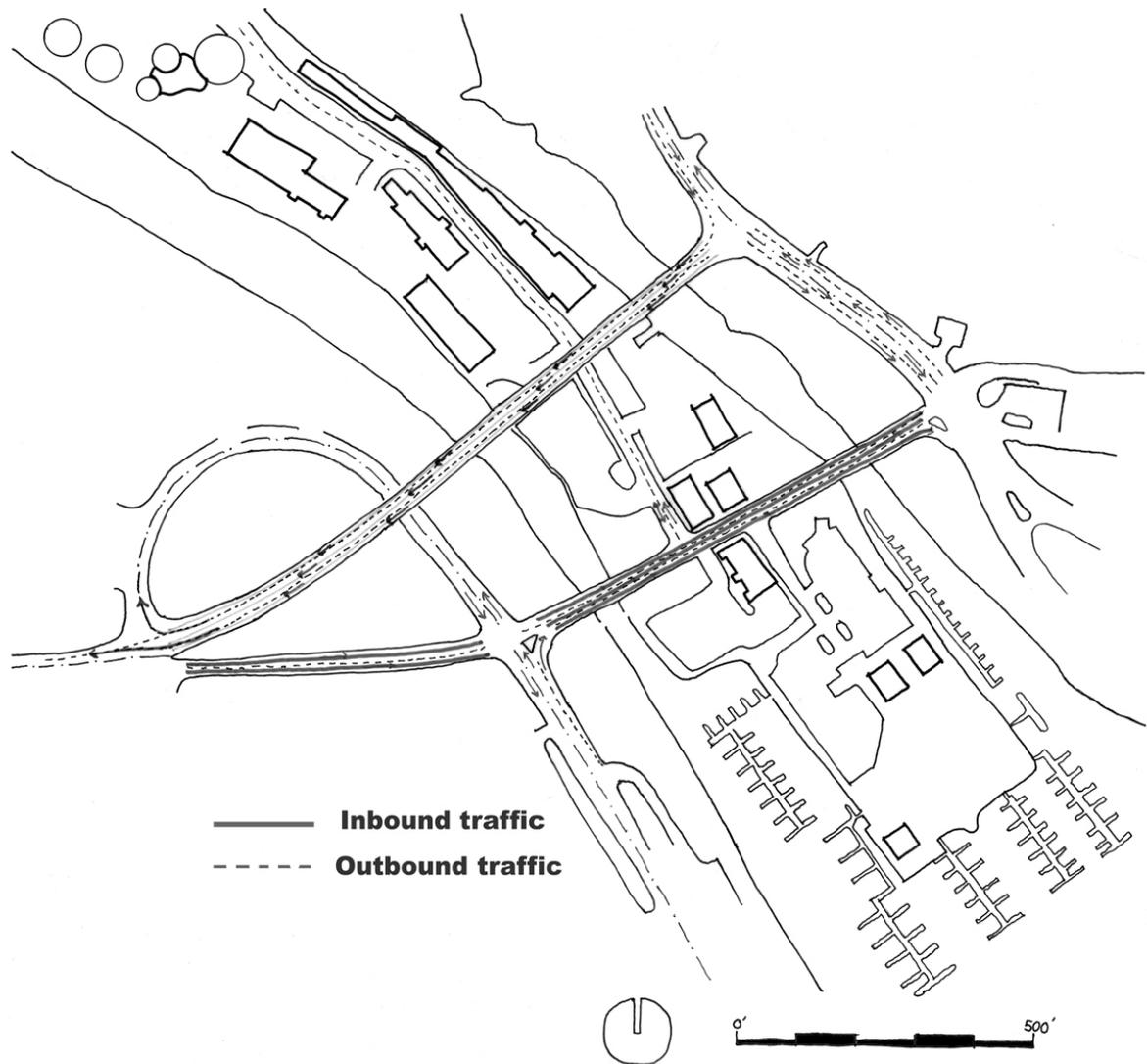


Figure 70: Existing traffic conditions that identify one-way traffic going inbound to downtown Norwich and one-way traveling outbound to Westside over Sweeney Bridge.

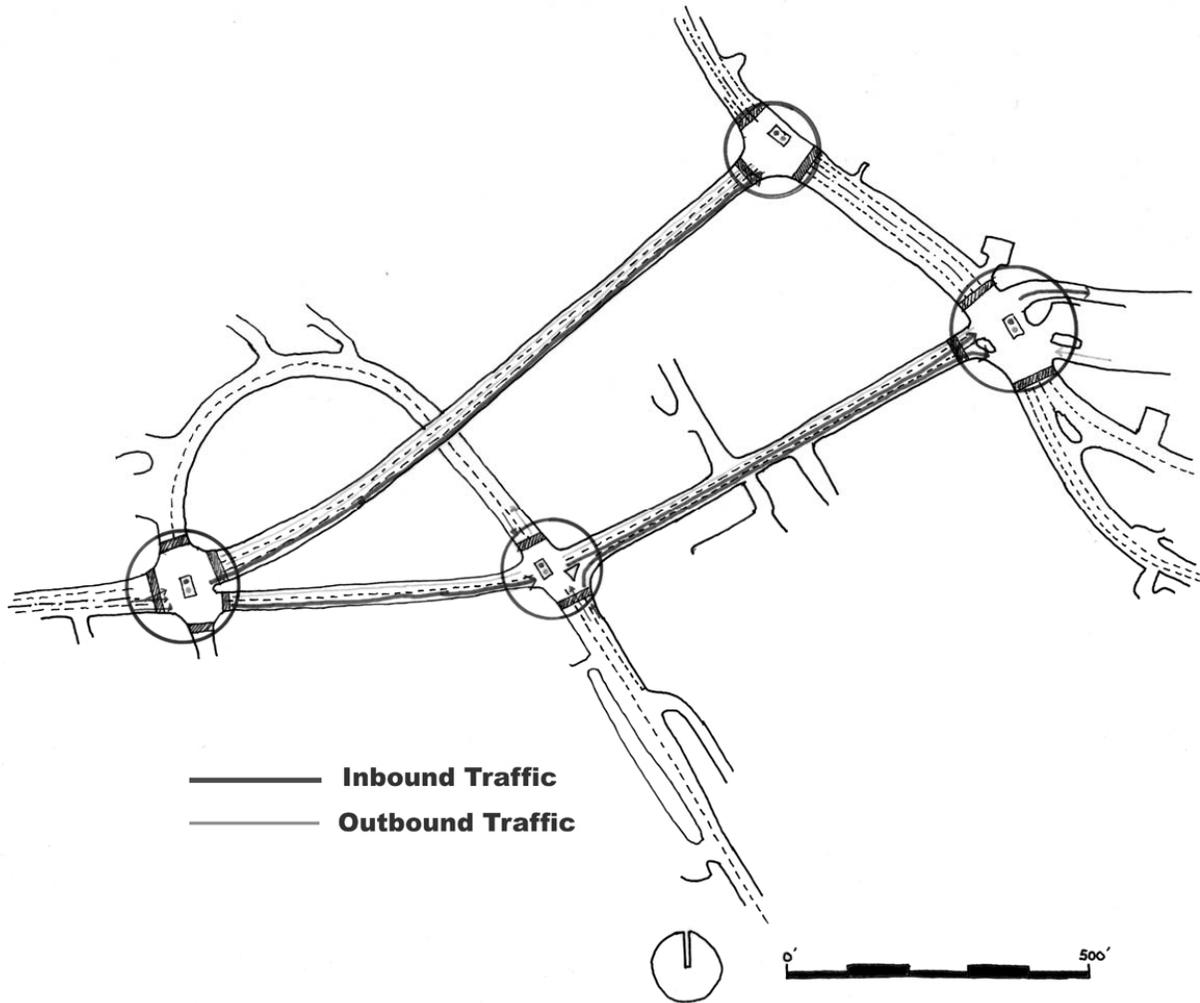


Figure 71: One proposal suggests the dedication of a single lane on Sweeney Bridge and two lanes on North Main Street for inbound traffic into downtown Norwich while keeping two lanes of outbound traffic on Sweeney Bridge and dedicating one lane of outbound traffic on North Main Street.

PRECEDENTS

PAPIERFABRIK- PAPER FACTORY

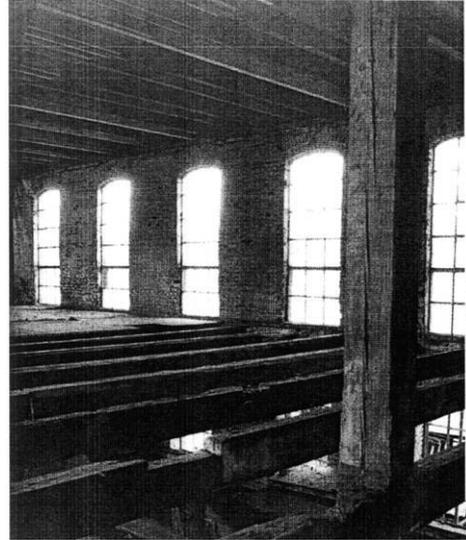


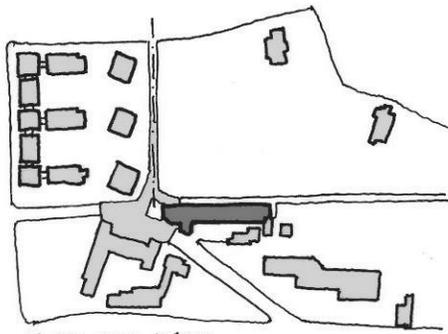
Figure 72: [Landscape Arch.; June, 2001]

Description

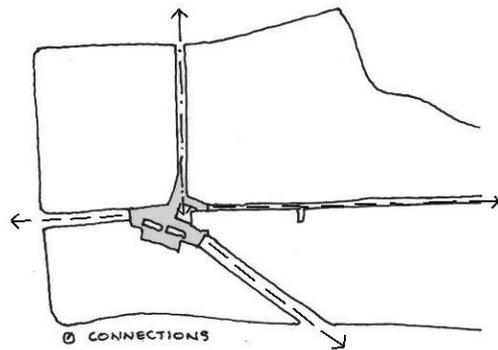
Designed by Lorenz Langer in Neumünster, Germany, the adaptive re-use of an old paper factory was as much about the details as it was about the design. Designated under heritage protection, the preservation of the style and character was important, if not vital to the success of this project. Offices, shops, a bistro and rooms for public events were made with little disruption to the substance of the building. Learning from the old structure, the new addition attempted to mimic the original form by using reinforced concrete. However, the architect was careful to convert the structure in subtle ways in order to satisfy its contemporary needs.

Relevance

This project demonstrated a technique that the architect used in order to work with a minimal budget to achieve contemporary results. Also, it demonstrated that the language set forth by the existing structure, such as tectonics, does not need to be abandoned in order to make a contemporary structure.



Ⓞ SITE PLAN 1:4000
Figure 73: Site plan



Ⓞ CONNECTIONS
Figure 74: Visual and physical connections

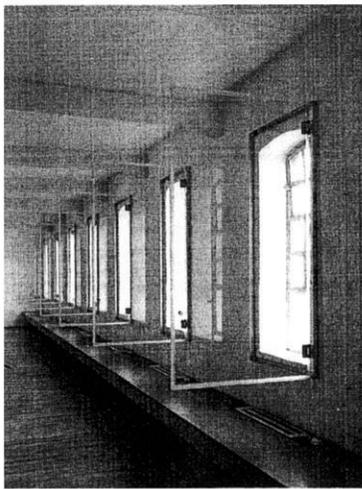


Figure 76: Refurbished interior
[Landscape Arch. June, 2001]

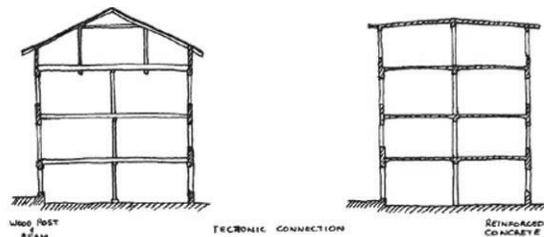


Figure 75: Sections comparing post and beam vs new reinforced concrete construction

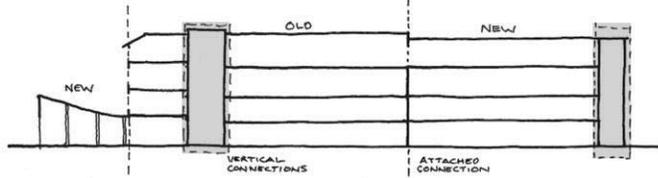


Figure 77: Longitudinal section comparing new and old segments. Vertical circulation.

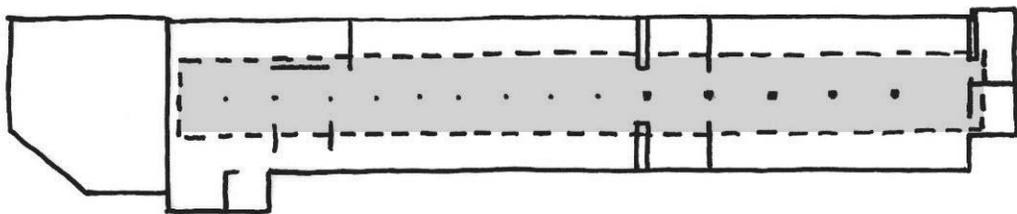


Figure 78: Horizontal circulation through the center of the gallery space

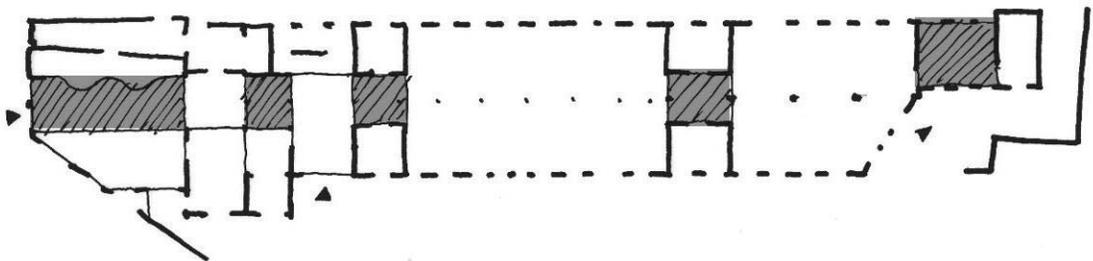


Figure 79: Spaces within the building that create moments for reflection and interaction

MUSEUM OF SCIENCE AND INDUSTRY

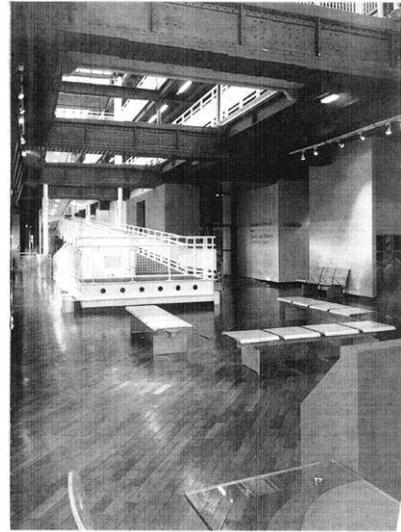


Figure 80: Interior image of entry sequence
[RIBA Journal; March, 2001]

Description

Austin-Smith: Lord and project architect Andrea Butter were challenged by the city of Manchester, England to retrofit Victorian railway warehouses into a contemporary museum. The cost of the scheme was just over £6.5 million and introduced 2,475 m² of new construction. The new scheme introduces a double height entry pavilion, which leads you into a reception area that houses the offices and shop. A grand ramp bisects the space in order to provide gradual ascending through the three levels of gallery space. The final result gives this site a strong presence in the city while also providing adequate visibility back to the city.

Relevance

This adaptive re-use project demonstrates a method of combining an old structure with a more modern vision. The arrangement of the various programmatic elements demonstrates a comprehensive understanding of circulation within this type of public space.

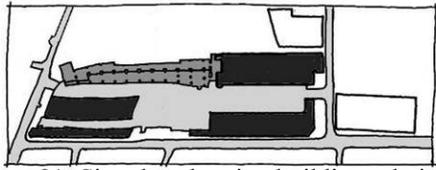


Figure 81: Site plan showing building relationships

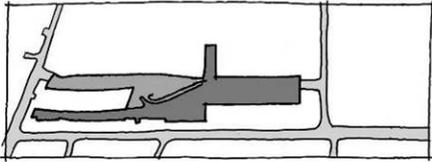


Figure 82: Connections of space through open space

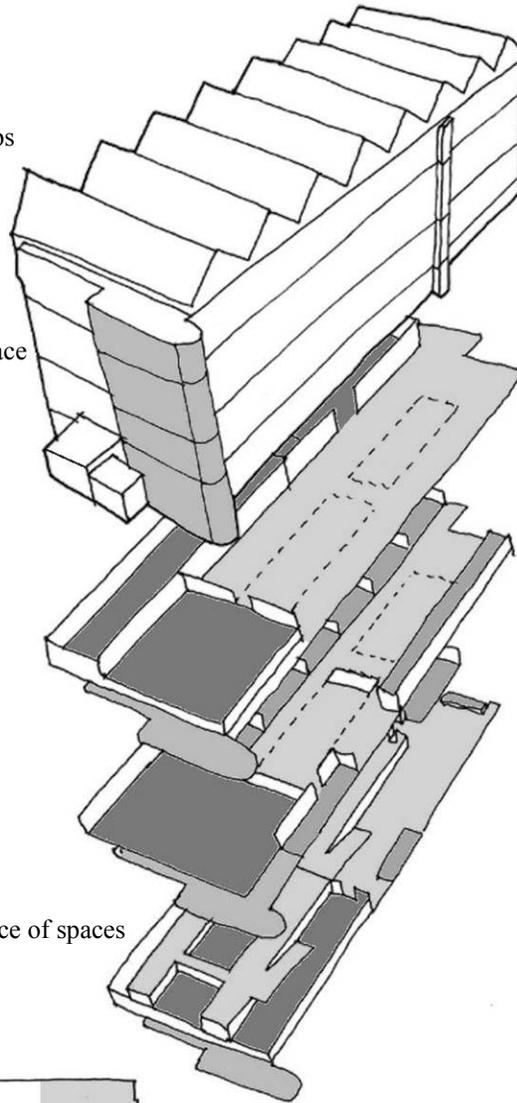


Figure 83: Axonometric diagram showing sequence of spaces from the ground floor up

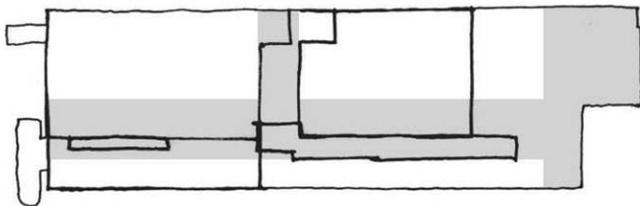


Figure 84: Typical floor plan showing horizontal circulation



Figure 85: Typical floor plan showing areas of repose

THE INDUSTRY MUSEUM

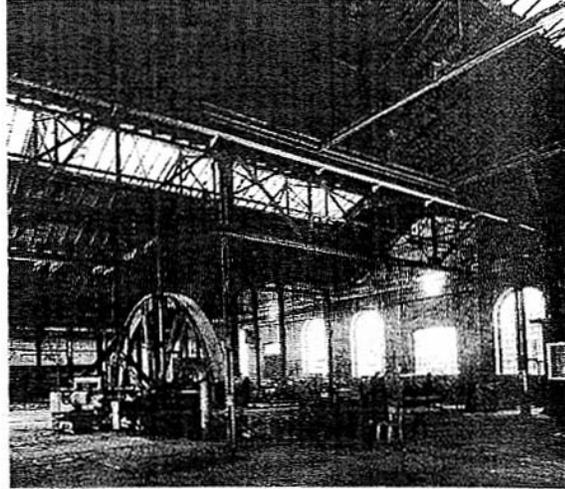


Figure 86: Interior image of the museum and exhibit
[Baumeister: Dec. 1995]

Description

BauCoop, Köln were approached with the design problem of re-using a vacant machine manufacturing plant for the purpose of a museum. One of the challenges was that this project was to be phased in two parts and spread over eleven years. Their solution was inspiring because it demonstrated the effectiveness of adding modern technological advances to contrast the old plant. Recycling and restoring the overhead cranes allowed the cranes to be put on display as an artifact while serving another solution, which is purely functional. A glass-enclosed box articulates the distinction between the office and administrative areas and the gallery spaces. This project is about layering, either in the sequence of larger spaces or by the exhibits themselves.

Relevance

The aspect of layering was of particular interest because this project demonstrated that within an existing volume, different volumes can be created in order to distinguish between various functions. These spaces allow the volume within the existing structure to appear undisturbed and intact.

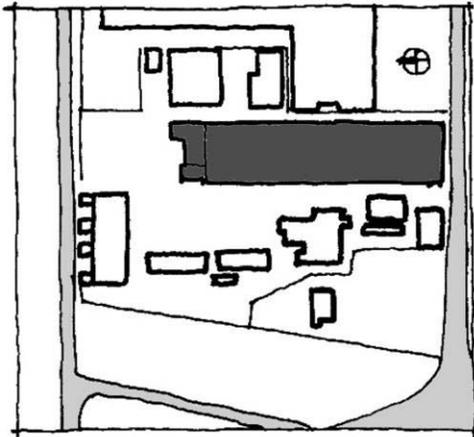


Figure 87: Site plan diagram

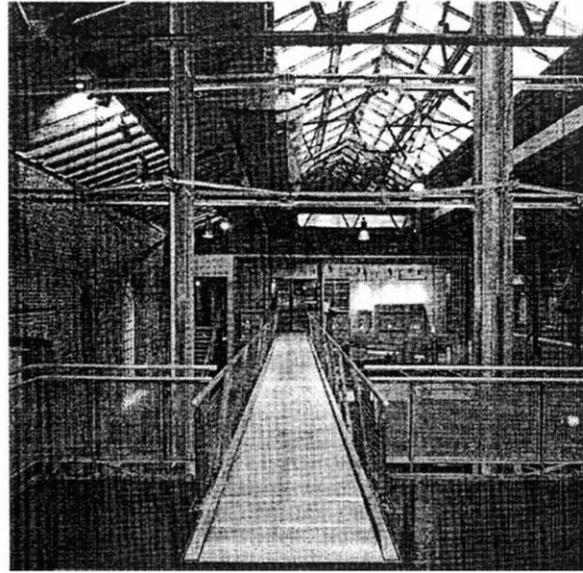


Figure 88: Image of the elevated walkway connecting the office spaces. [Baumeister: 12/1995]

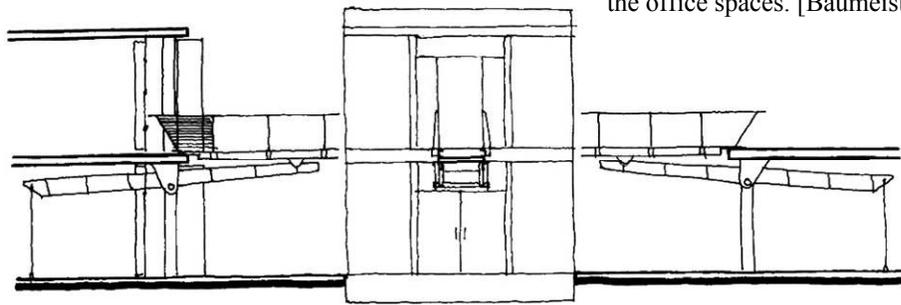


Figure 89: Section diagram through the elevated walkway

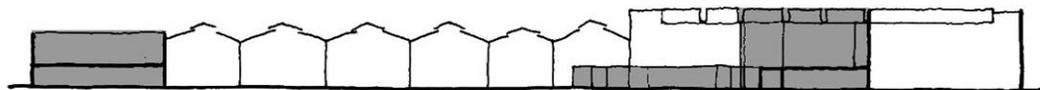


Figure 90: Section through building showing gallery vs. support spaces



Figure 91: Typical plan showing open gallery floor compared to distinct support space

LANTANA LANDING

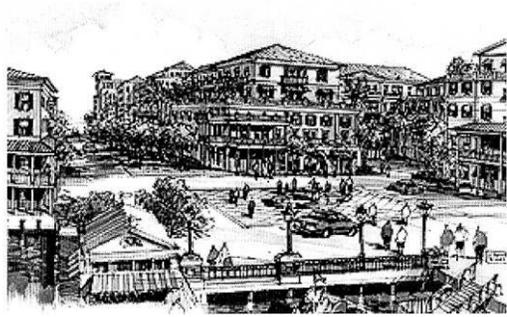


Figure 92: Waterfront square perspective
[UDA: Pittsburgh, PA]

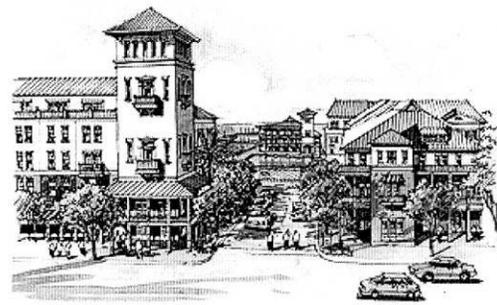


Figure 93: Entrance perspective
[UDA: Pittsburgh, PA]

Description

Lantana Landing is a mixed-use neighborhood that reclaims a derelict wharf along the Gulf Coast in Florida. Urban Design Associates was charged with the premise that this 15- acre neighborhood should accommodate spaces for retail, restaurants, and up to 400 units of a combination of apartments, condominiums flats and townhouses. This entire program was organized around a system of squares and streets that could be extended to adjacent property in order to create future neighborhoods along the waterfront.

Relevance

This large scale project was a focus of study because it demonstrated the use of pedestrian friendly streets and squares as an organizing principle around the community. Further investigation illustrates that although spread over such a large footprint, the neighborhood is distinct in its character through squares, whether they are retail squares or residential squares. Also, the architectural character reflects adjacent Gulf Coast precedents.

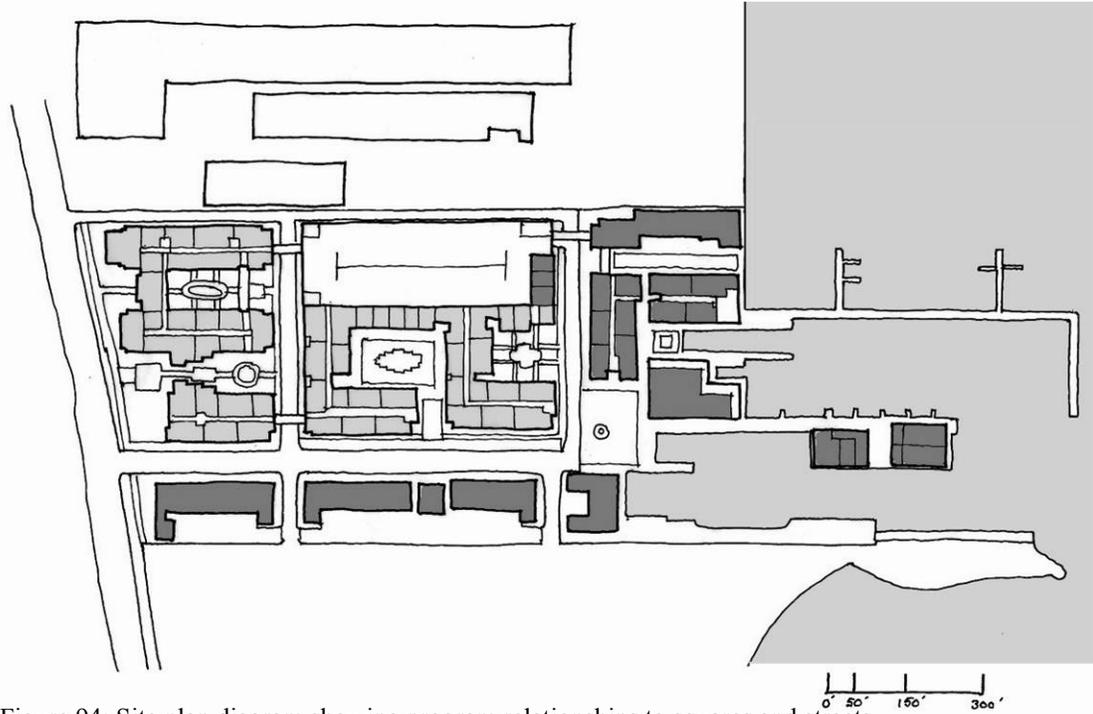


Figure 94: Site plan diagram showing program relationships to squares and streets.



WATERFRONT ELEVATION

Figure 95: Waterfront elevation rendering [UDA: Pittsburgh, PA]

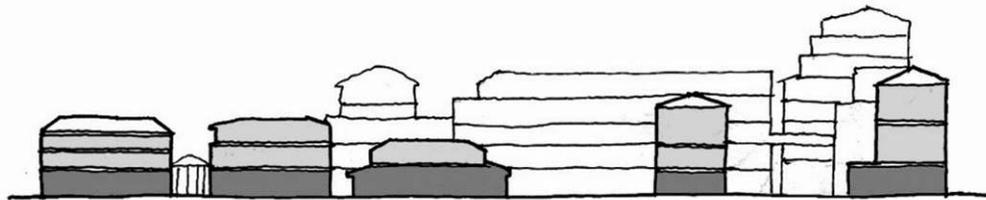


Figure 96: Section diagram showing the dedication of retail/restaurants on the ground floor with residential above.

ST. ANNE'S WHARF DEVELOPMENT

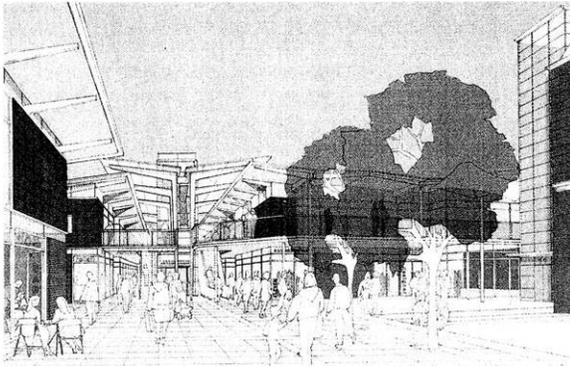


Figure 97: Retail arcade perspective
[Architect's Journal: Nov. 1997]



Figure 98: View from the bridge
[Architect's Journal: Nov. 1997]

Description

John Lyall designed this masterplan for St. Anne's Wharf in Norwich, England as a catalyst for other regeneration projects along the river. The site utilizes an area formerly occupied by a brewery. The two phase project is broken down into a mixed-use of retail, restaurant, cultural and residential spaces. The goal was to arrange the development in such a way as to dedicate the ground floor of each building for public functions but provide a sense of individuality within the addresses of the residences above. His solution was to provide an elevated concourse that connects several buildings at once, thus allowing each property owner to get a feeling of ownership relative to their space.

Relevance

This precedent demonstrates the potential of an elevated movement system in order to 'free up' the ground plain for a multitude of public venues and spaces.

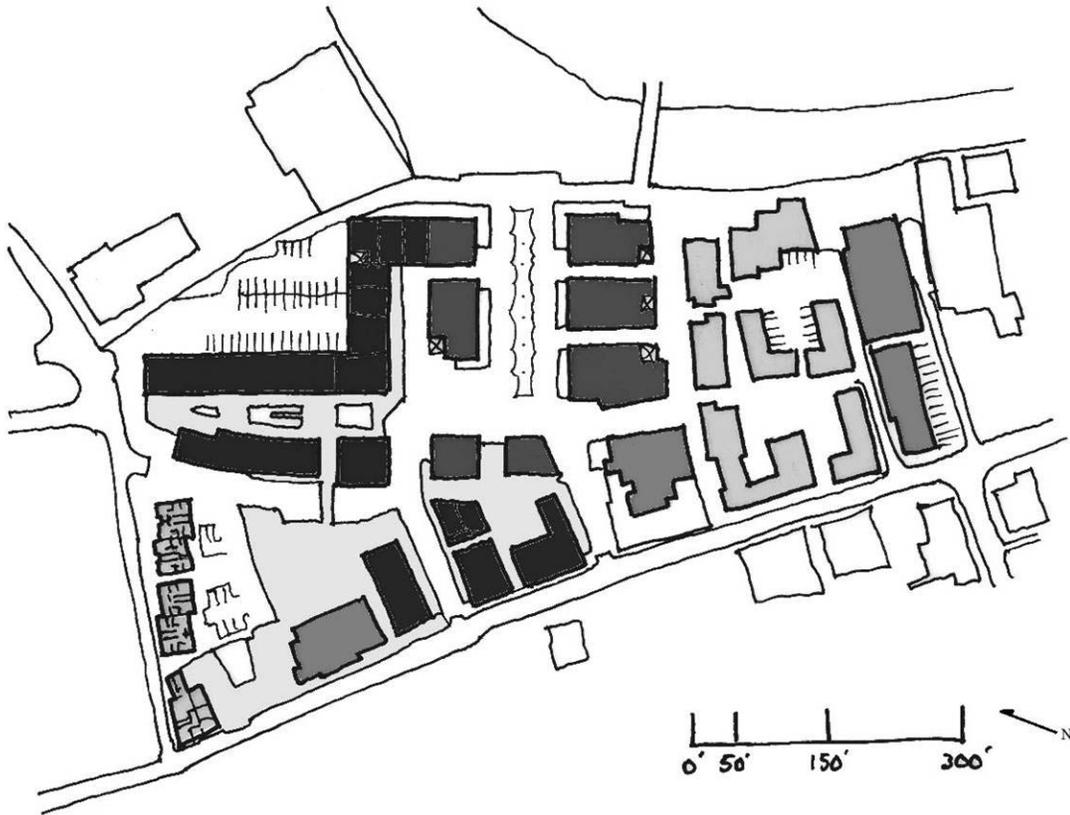


Figure 99: Site plan diagram showing arrangement of spaces and functions

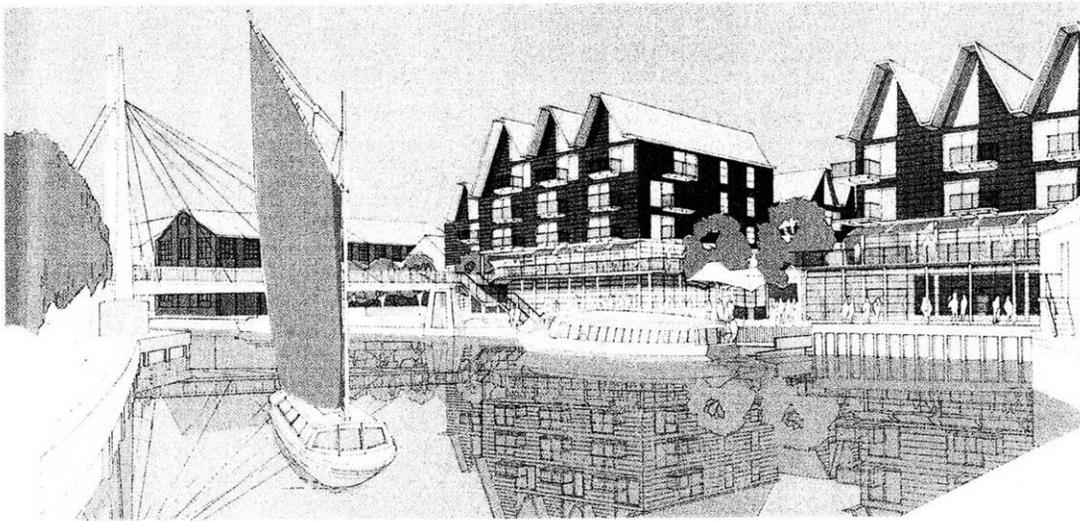


Figure 100: Riverfront perspective showing architectural character [Architect's Journal: Nov. 1997]

PROGRAM

Development Concept

There are two components to this thesis that will be addressed differently. One component is the Museum of Industry. The museum consists of predominantly exhibition spaces and facilities that focus on demonstrating and illustrating different aspects and mechanics of the Industrial Revolution that were vital to the prosperity of Norwich, CT. Some of those aspects are the textile industry, paper industry, nail industry and firearm industry. The galleries will showcase life size replicas or salvaged originals of each machine and the program will accommodate space for a workshop where these machines can be restored.

The second component to this thesis will involve the revitalization of Hollyhock Island. This thesis will in effect test the feasibility and desirability of two extremes of development, recognizing that the middle ground development involves keeping the edges green and natural while the core is more developed. One extreme is to create an urban park as a symbolic conception to establish a community between Westside and Downtown Norwich that is predicated on social interaction and communal activity. The other extreme is a high density flagship development where most of the open space allocated for public use is hardscape. The purpose of this would be to market the city of Norwich as a destination instead of how it stands today which is a “rest stop” on the way to the nearby casinos. The program of this development would be a mixed-use type, with the ground floor dedicated to retail or small commercial business while the upper floors would be dedicated to residences, either hotel or apartment type.

Program Defined

Museum:

Gallery Space:.....52,500 sf

Existing Building #2 constitutes 22,500 sf. 30,000 sf of new space

There will be several different galleries dedicated to either illustration or demonstration of the history on milled industry in Norwich. The demonstration galleries will consist of a printing gallery demonstrating the paper industry, a textile finishing gallery for demonstration of the bleaching and calendering industry, a gallery dedicated to hydroelectric storage and collection, and a firearms gallery dedicated to the production of firearms not necessarily the firearms themselves. Demonstration will also occur on smaller intimate levels along the procession through the museum.

Office Space:.....8@ 144sf ea. 1,152 sf

The office space will be and mix of reception and private rooms dedicated to the function of the museum and historic preservation of the mill and machines.

Conference Space:.....2@ 500 sf 1,000 sf

Used by the museum employees.

Small restroom for the offices:.....100 sf

Entry Space:.....5,520 sf

Based on the former Building #3, the size of the entry space is enlarged to accommodate a space not just for entry but for illustration and interactive media presentations.

Reception Desk:.....100 sf

To welcome visitors to the museum and to answer any questions.

Coat Check:.....50 sf

To deposit coats or umbrellas.

Small gift shop:.....300 sf

A place to buy souvenirs or information on the mills.

Small café:.....500 sf

The café would offer a selection of sandwiches, snacks and hot and cold drinks. There would also be a small area for eating and sitting.

Shop for restoration: 2000 sf

The machine shop should be large enough to accommodate larger machinery delivered to the museum as well as showcase area for visitors to witness the hands on task of restoring the equipment.

Loading dock: 300 sf

The loading dock would receive incoming equipment for both display and for daily use in the museum. It should have some physical connection to the restoration shop. A small receiving office will be included in that space as well.

Restrooms: 2@ 400 sf 800 sf

The restrooms will be centrally located on the ground floor.

Circulation: 20 % 12864 sf

Museum: 77,186 sf

Flagship Development: Figures bases off the conceptual scheme B (figs. 94-96)

Retail: 25,000 sf

Most, if not all the retail will be dedicated to smaller shops and regional small business use.

Restaurants totaling: 20,000 sf

The potential to provide a couple of restaurants and cafes in this development would benefit the idea of a destination.

Hotel: @ 72 rooms 15,000 sf

At least one short term stay hotel would be desirable to accommodate tourists and other visitors.

Apartment: @ 40 in a mix of room sizes 40,000 sf

Apartment types focused for the young professional

Total: 100,000 sf

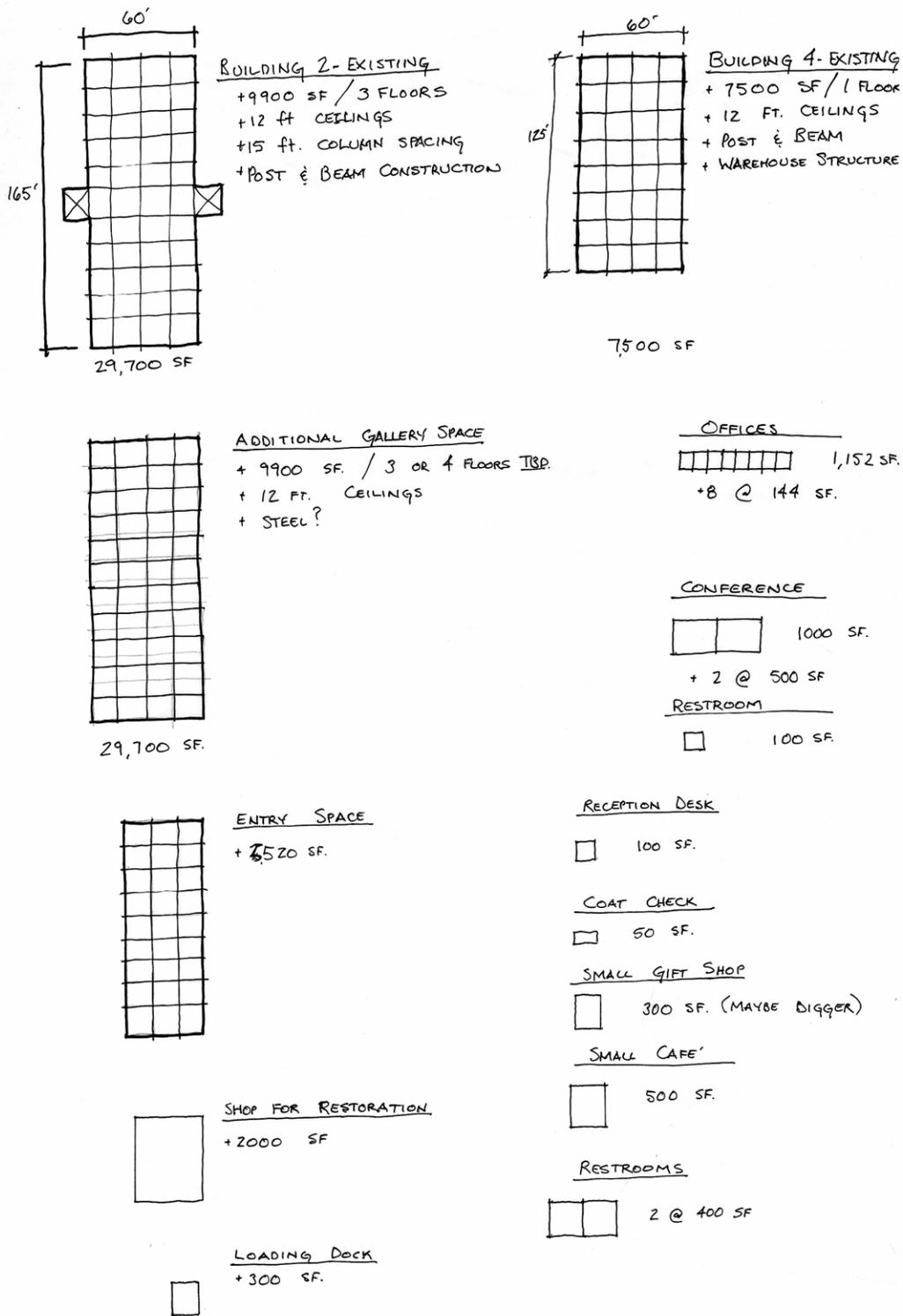


Figure 101: Program Diagram: shows the initial distribution of program for the museum component.

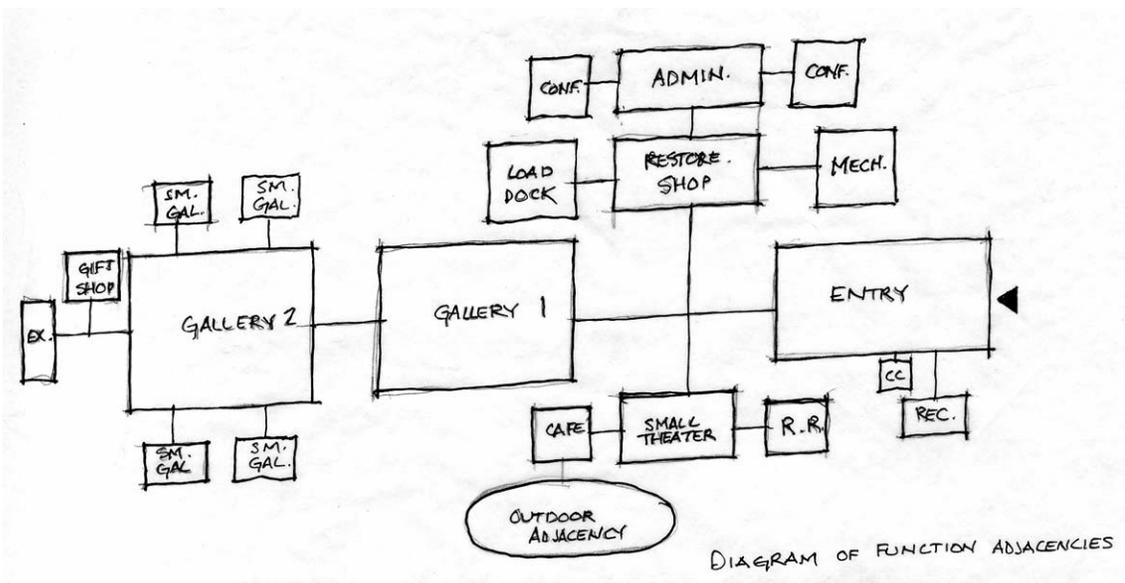


Figure 102: Adjacency diagram: shows the functional adjacencies for the museum component.

DESIGN FEASIBILITY

Scheme A Urban Strategy

Objective: to recognize the potential of Hollyhock Island as a place of social gathering with the premise of a community park.

Hollyhock Island sits in a prominent location between the two communities of Westside and Downtown. Downtown Norwich is suffering from a stagnant economy resulting from an influx of social service businesses and less of the desired goal which is bring in more local and national commercial uses. Meanwhile, Westside is becoming a strip of corporate single-use commercial establishments that retain none of the urban fabric identity of Downtown because there is nothing but sprawl all the way to the I-95 corridor. Scheme A proposes that the island be dedicated to public open space that anyone can enjoy. Hollyhock Island can serve as the edifice to which both communities can come together in a central park location to socialize and expand on their cultural heritage. Norwich used to be a community predicated on family and tradition with community parks serving the purposes of intimate gatherings as well as larger social celebrations such as the Rose Parade (still held every year) and the celebration of the Thanksgiving Holiday. The 'Green Scheme' recovers some of the lost open urban green spaces that have been swallowed up by commercial development while increasing the aesthetic value sustained currently by Heritage Walkway along the north bank of the Yantic River.

Proposal: to dedicate over 75% of the island to public open space in the form of soft and hardscape. Use the open space as a transition area between the Marina and the proposed Museum of Industry and provide a hotel closest to the Marina in order to accommodate for longer-stay visitors.

Scheme A Urban Strategy

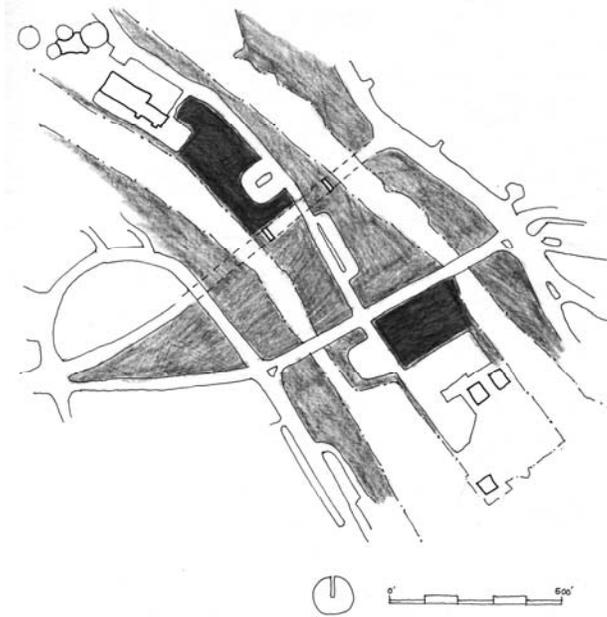


Figure 103: Diagram indicating the areas dedicated for building (in black) and public open space (grey)



Figure 104: Plan diagram of scheme A

Scheme A Urban Strategy

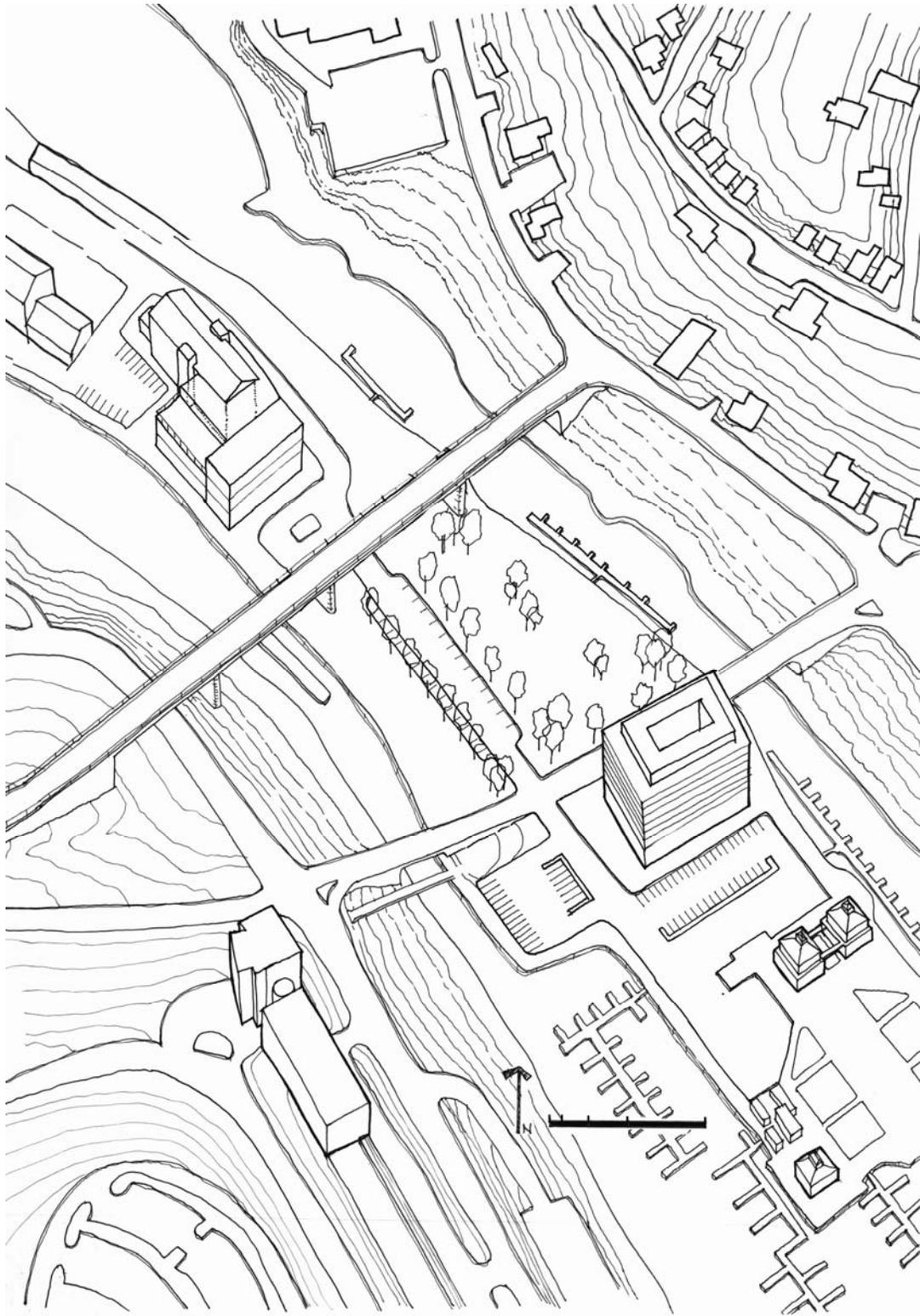


Figure 105: Axonometric of scheme A showing spatial relationships

Scheme B Urban Strategy

Objective: to develop a portion of the site dedicated for mixed-use while maintaining the north half of the island for open green space.

The concept behind scheme B is to establish the island as a destination with more aspects developed on it that attract visitors and benefit the local economy. It is difficult to deny the property value this site would have as a destination that is walk able from both districts of the city as well as a valued amenity located so close to the marina and the water. Apartments in this location are attractive for investors as well as future home owners looking for a desirable location. This type of development would also be useful as the test that Norwich would need in order to satisfy the marketing strategy of, providing the foundations necessary in order to attract investors. The south side of the island was chosen in order to address the potential for a more formal entrance to the American Wharf facility. Aligning the axis of the marina with Falls Avenue provides a focus that visitors can identify with whether coming or going to the site. The north side of the island could be maintained as a public open space to provide a visual as well as physical link between the site and the existing Heritage Trail that continues up the Yantic Falls Mill.

Proposal: the addition of a hotel that can be utilized by marina and city traffic as well as museum traffic. Create a mixed use development on the south side of the island maintaining the existing mixed-use office building as the image and gateway piece into the development. Local commercial use on the ground floor with 4-6 stories of mid-rise apartments above. All the development culminates in the Museum of Industry component.

Scheme B Urban Strategy

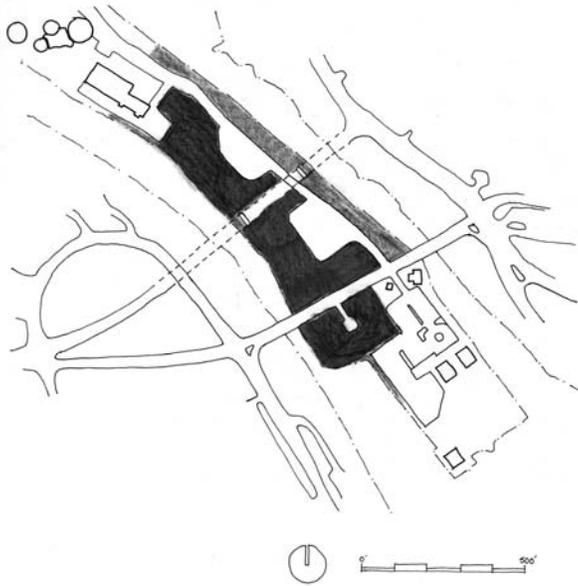


Figure 106: Diagram indicating the areas dedicated for building (in black) and public open space (grey)



Figure 107: Plan diagram of scheme B

Scheme B Urban Strategy

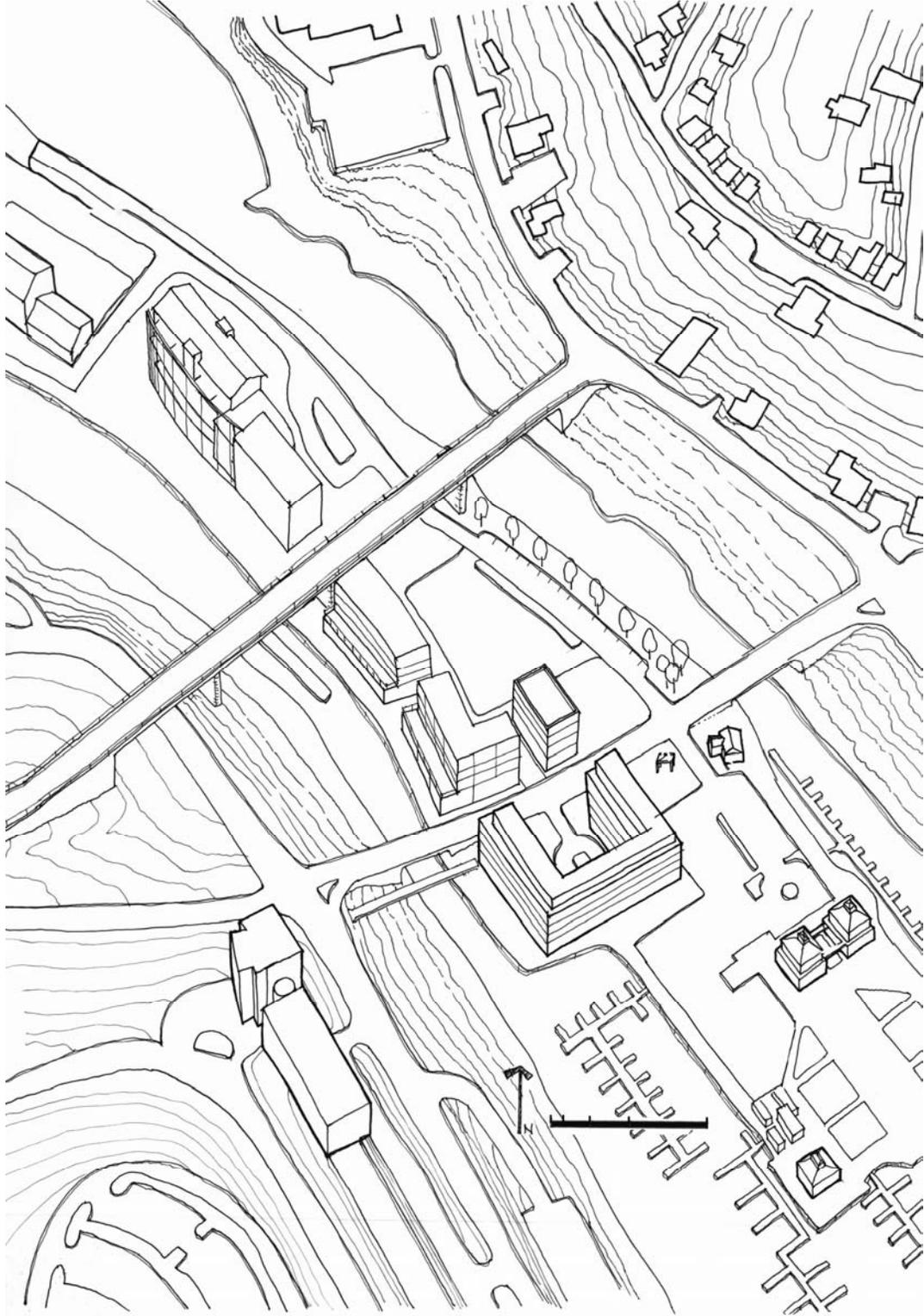


Figure 108: Axonometric of scheme B showing spatial relationships

Scheme C Urban Strategy

Objective: to develop the island at the highest density feasible. Maintaining a green riverfront path but creating moments of public open space that are predominately hardscape. The motivating factor for this scheme was economics and whether or not a flagship development with this density could sustain in a town like Norwich.

Having identified the economic stagnation that Norwich is in, this proposal creates a development that exploits the goal set forth by the downtown, which is to create a densely populated mixed-use environment. Suggesting a development of this size has its benefits and draw backs. The benefits include a marketable image for future investors, revitalizing a portion of the city that has become delinquent because of the closing of the mill and celebrating the waterfront as a place for residence, commercial activity and around the clock activities.

Some of the draw backs include, inadequate parking, over-crowding by both people and density of buildings and desirability from the city. A development of this type would seem to be the anti-thesis of suburban sprawl but parity to the overcrowded derelict sections of modern day cities.

Proposal: to test to see whether or not a high density development such as this is feasible and sustainable in the context of Norwich, CT. The mixed-use development would include spaces for small scale retail, restaurants, entertainment opportunities, and above that would be 4-6 levels of residences serving both the affluent and middle income family. To anchor this project would be the marquee building of a Museum of Industry which would have its own separate parking structure on the south side of the Yantic River.

Scheme C Urban Strategy

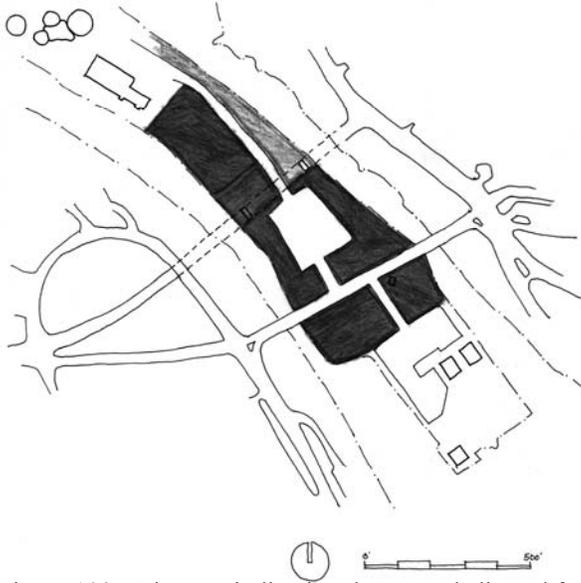


Figure 109: Diagram indicating the areas dedicated for building (in black) and public open space (grey)

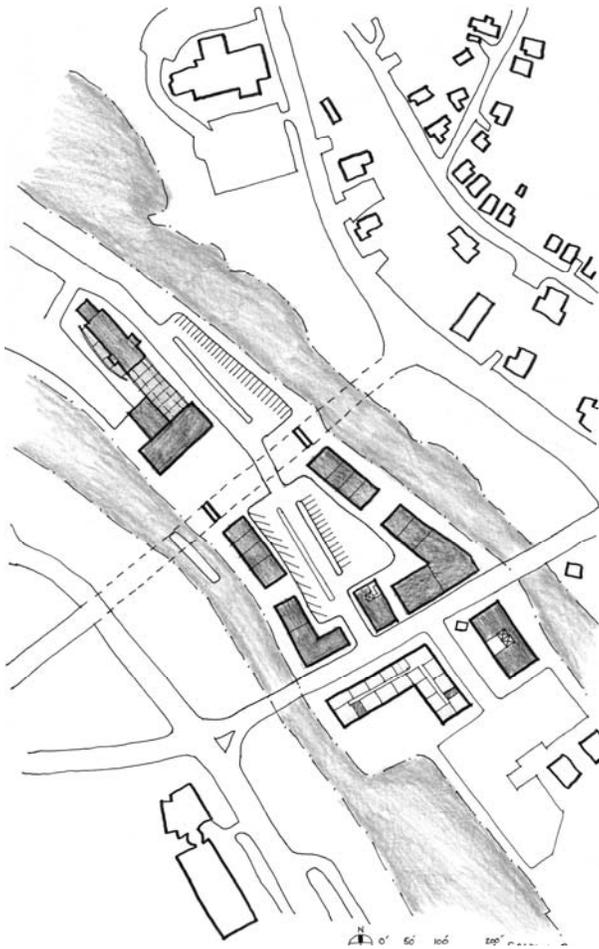


Figure 110: Plan diagram of scheme C

Scheme C Urban Strategy

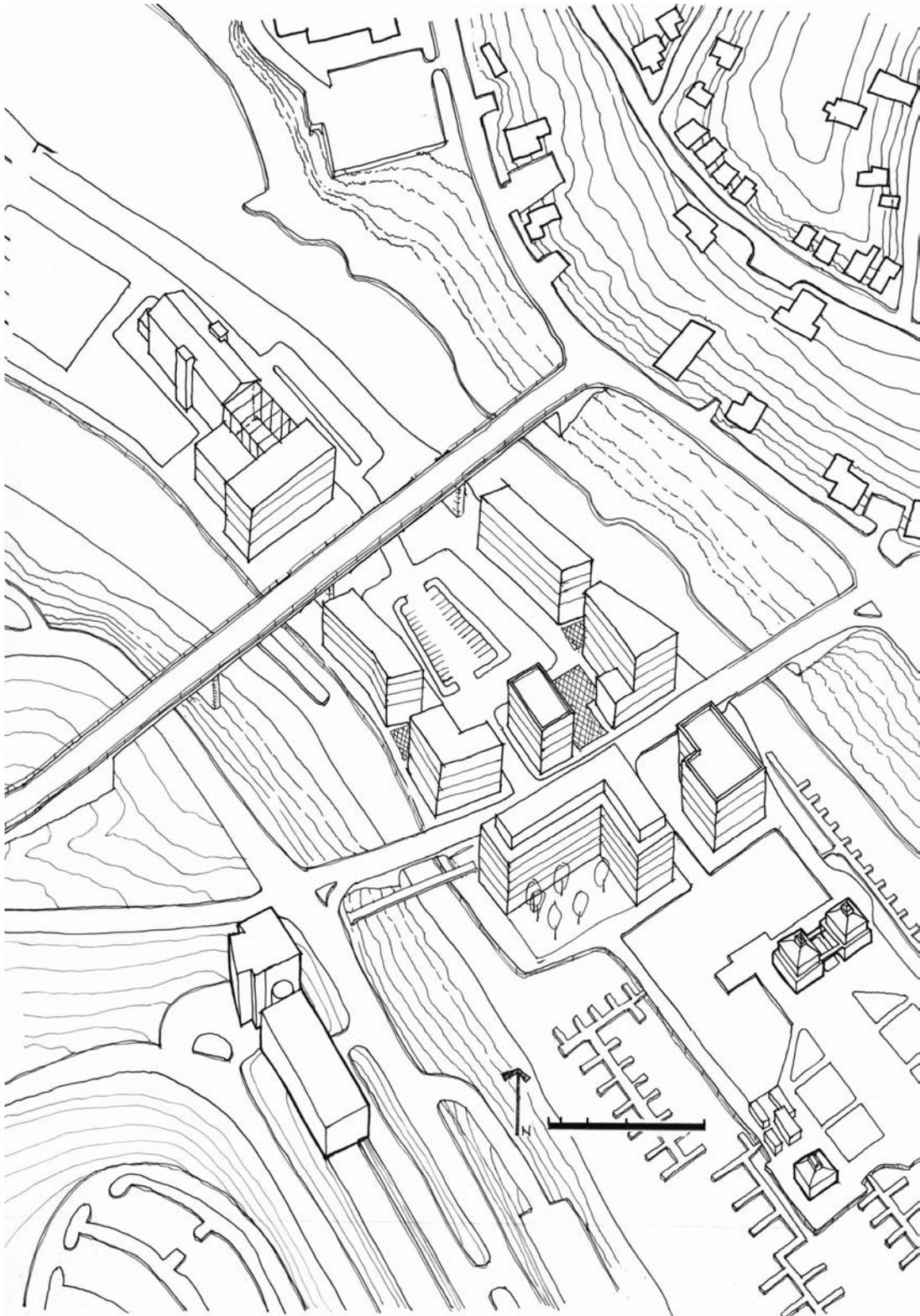


Figure 111: Axonometric of scheme C showing spatial relationships

Museum Partis

Scheme A Museum

Objective: to create an addition to the preserved mill as a glass extension. Taking into account the limitations industrial mills had with regard to natural light, the glass extension would be a contemporary demonstration of what milled industry was striving for in their working environment. By providing an almost identical form extruded from the original, one can almost start to make the metaphorical connection of the void of the old mill space, or the work done inside of it, now being put on display in a glass case for all to see and witness.

Proposal: this scheme would test the idea of whether or not two identical buildings (in dimension) can really appear as an antithesis of the other. In other words, the glass box extension takes on a transparent character creating the allusion of an anti-object as compared to the monumentality of the other. The preserved mill would now become the symbol of the cultural and physical heritage of Norwich simply by the monumental solidity of the form.

Scheme A Museum

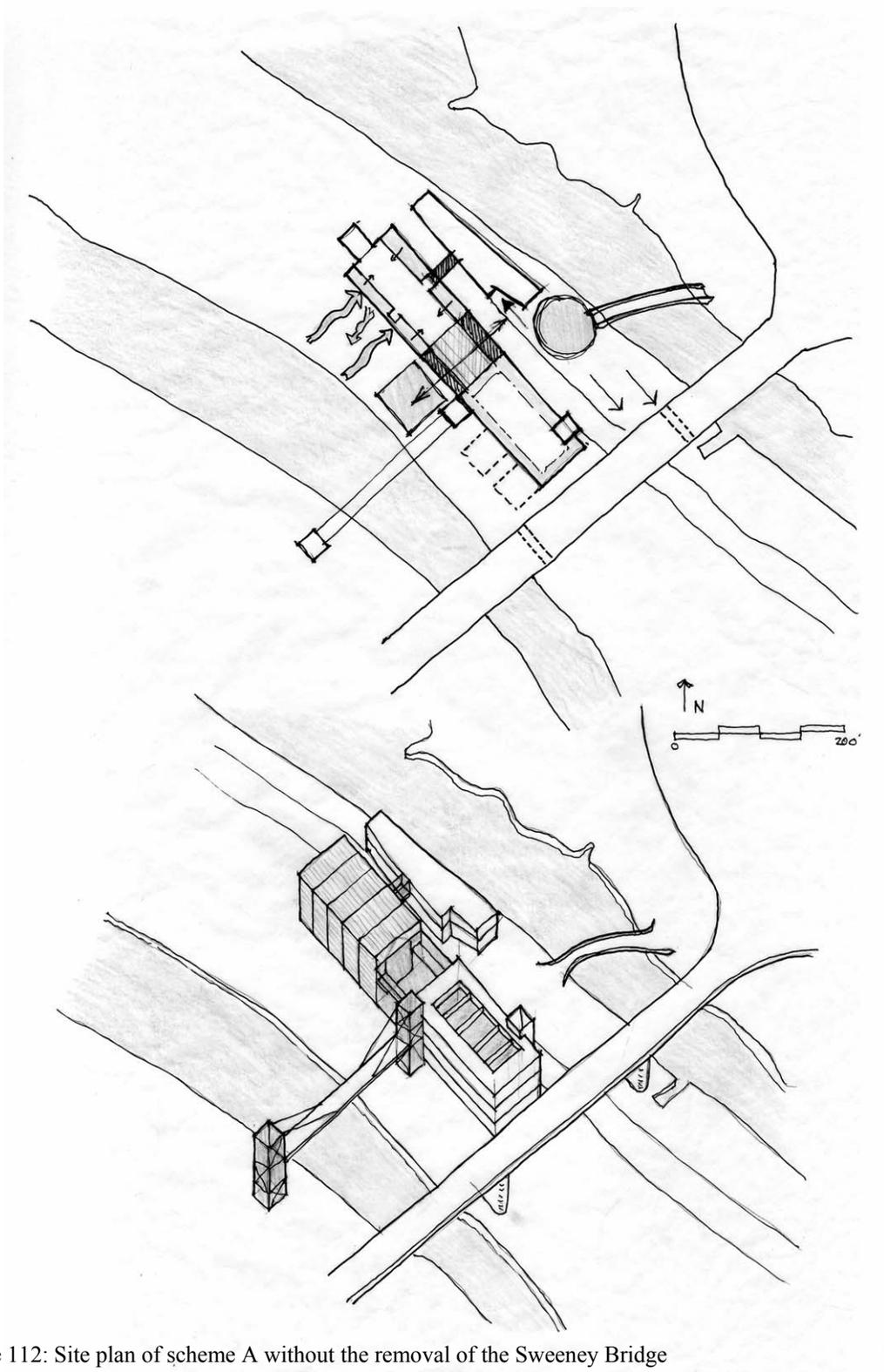


Figure 112: Site plan of scheme A without the removal of the Sweeney Bridge

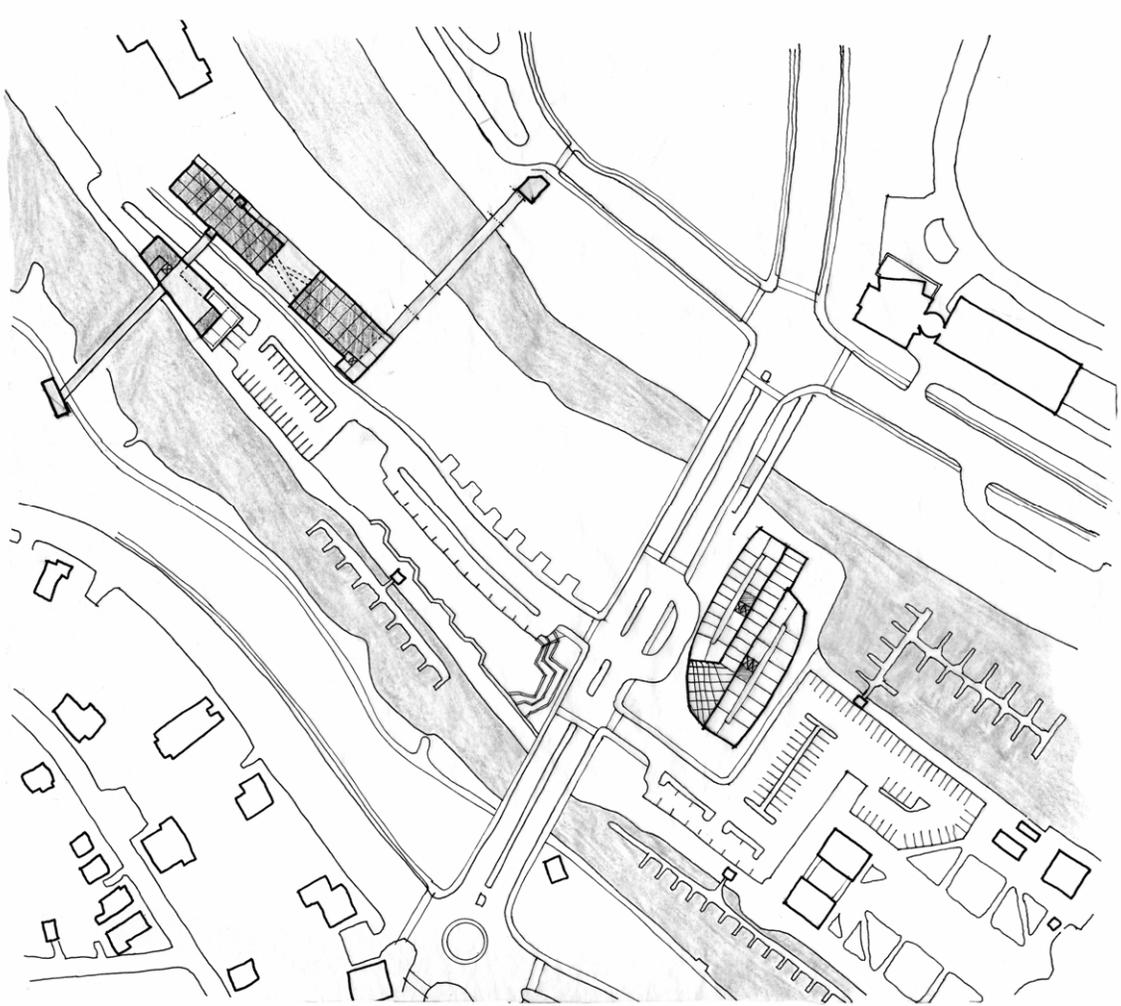


Figure 113: Scheme A (Modified) diagrams showing the museum without Sweeney Bridge

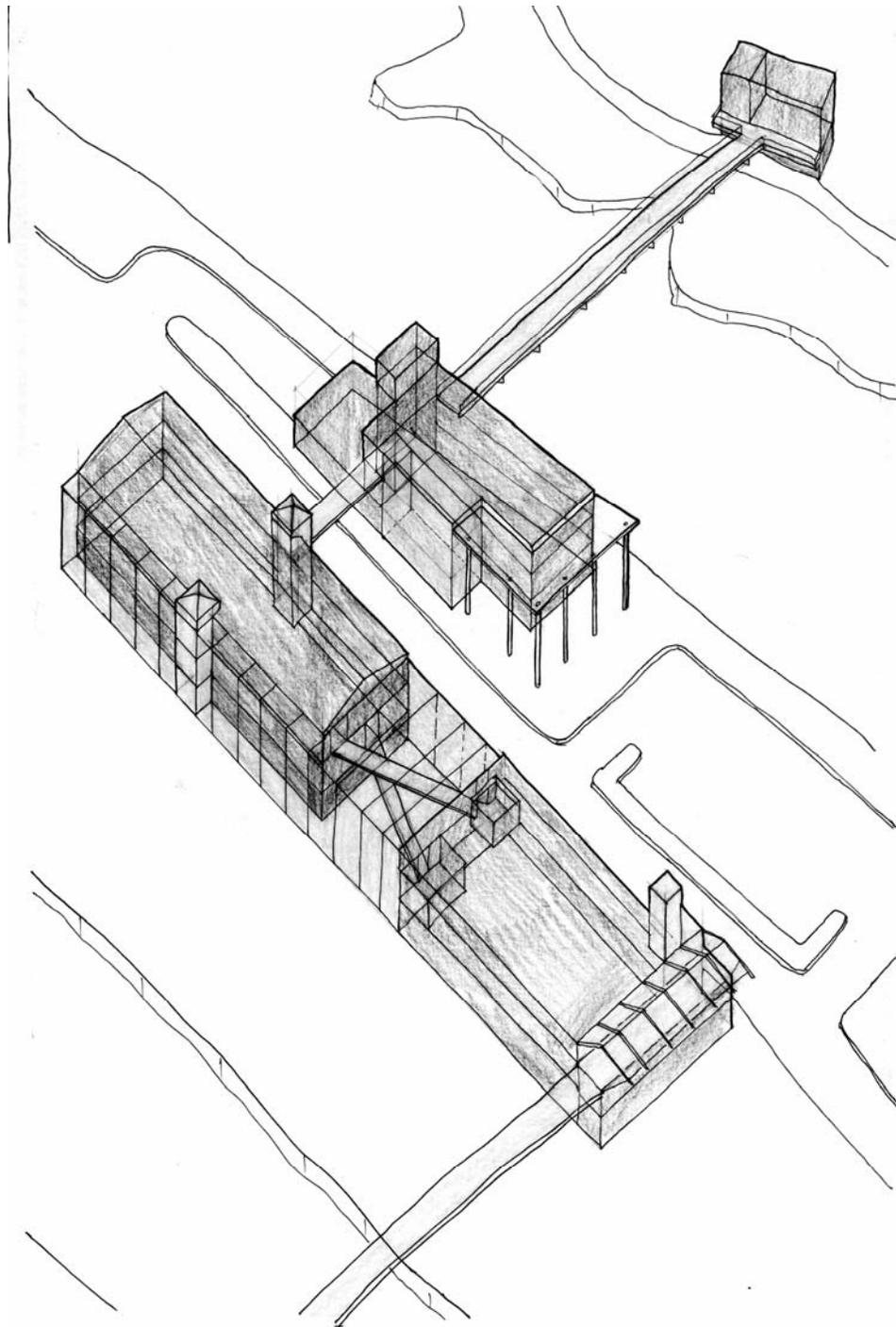


Figure 114: Scheme A program relationship axonometric

Scheme B Museum

Objective: by turning some of the programmatic elements, this scheme attempts to create a threshold into the museum complex. More surface area would potentially create more of an interface between the arriving visitor and the museum itself while forming a large atrium space within the museum. Part of the museum would address the bridge and wharf area while the rest of the new programmatic elements would address the river in order to celebrate the water as a primary natural resource for power. The atrium court would provide an internal space for reflection and interaction.

Proposal: to more than double the program of the preserved mill for the purpose of demonstrations and illustrations relating to milled industry in Connecticut. By turning the program perpendicular to the old mill, the museum becomes both a threshold and a billboard to what occurs within the space.

Scheme B Museum

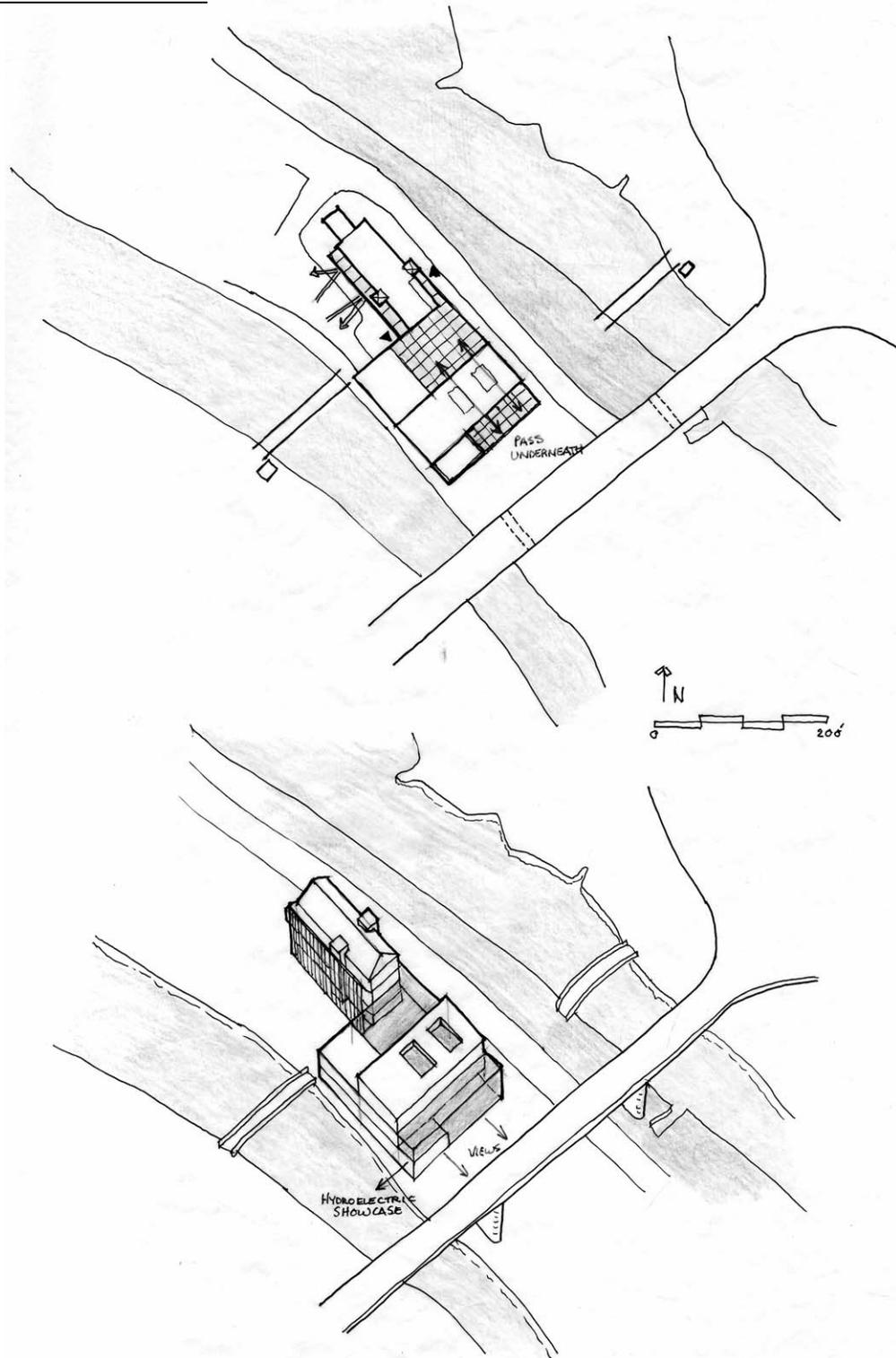


Figure 115: Site plan of scheme B without the removal of the Sweeney Bridge

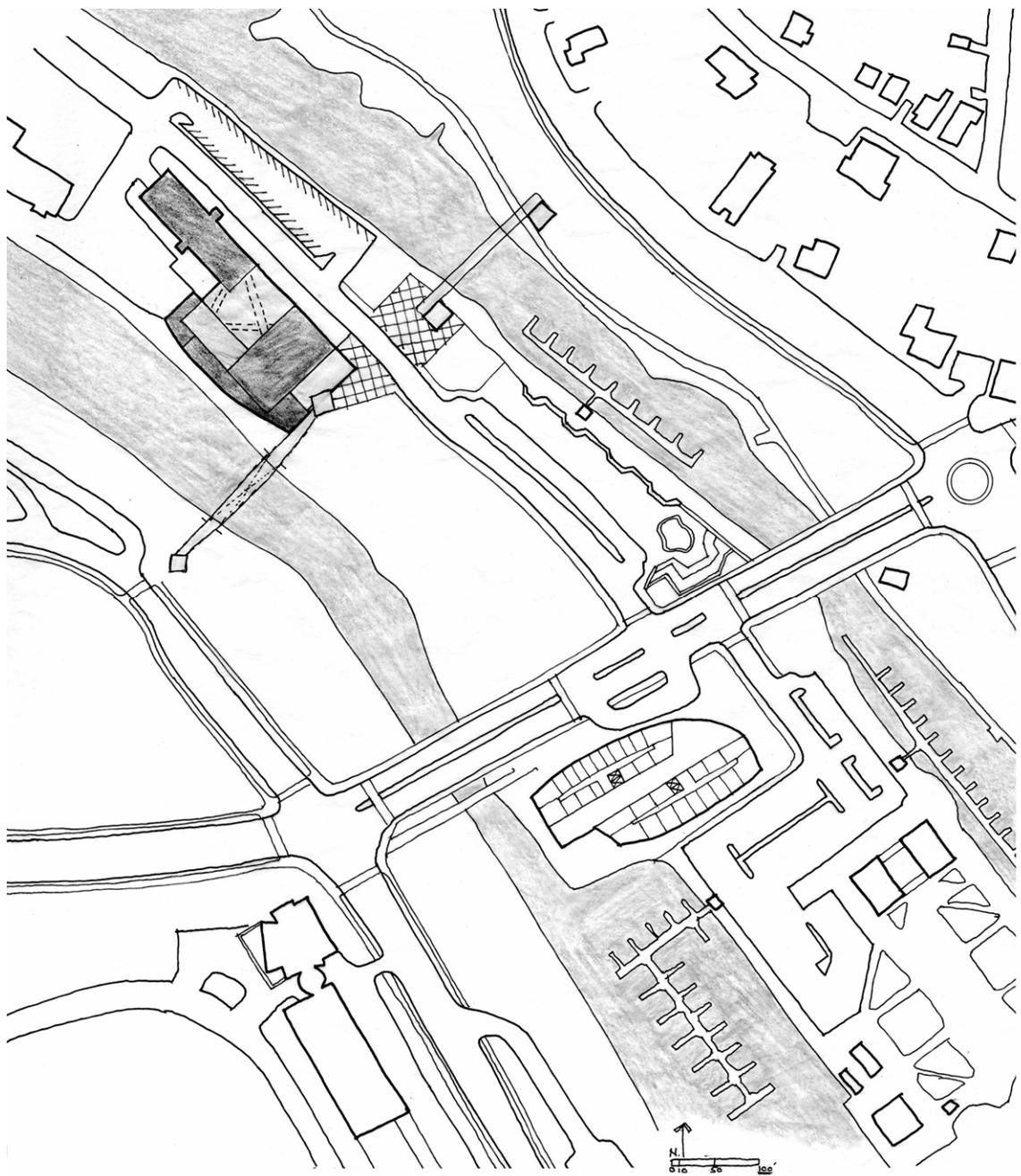


Figure 116: Scheme B (modified) diagrams showing the museum without Sweeney Bridge

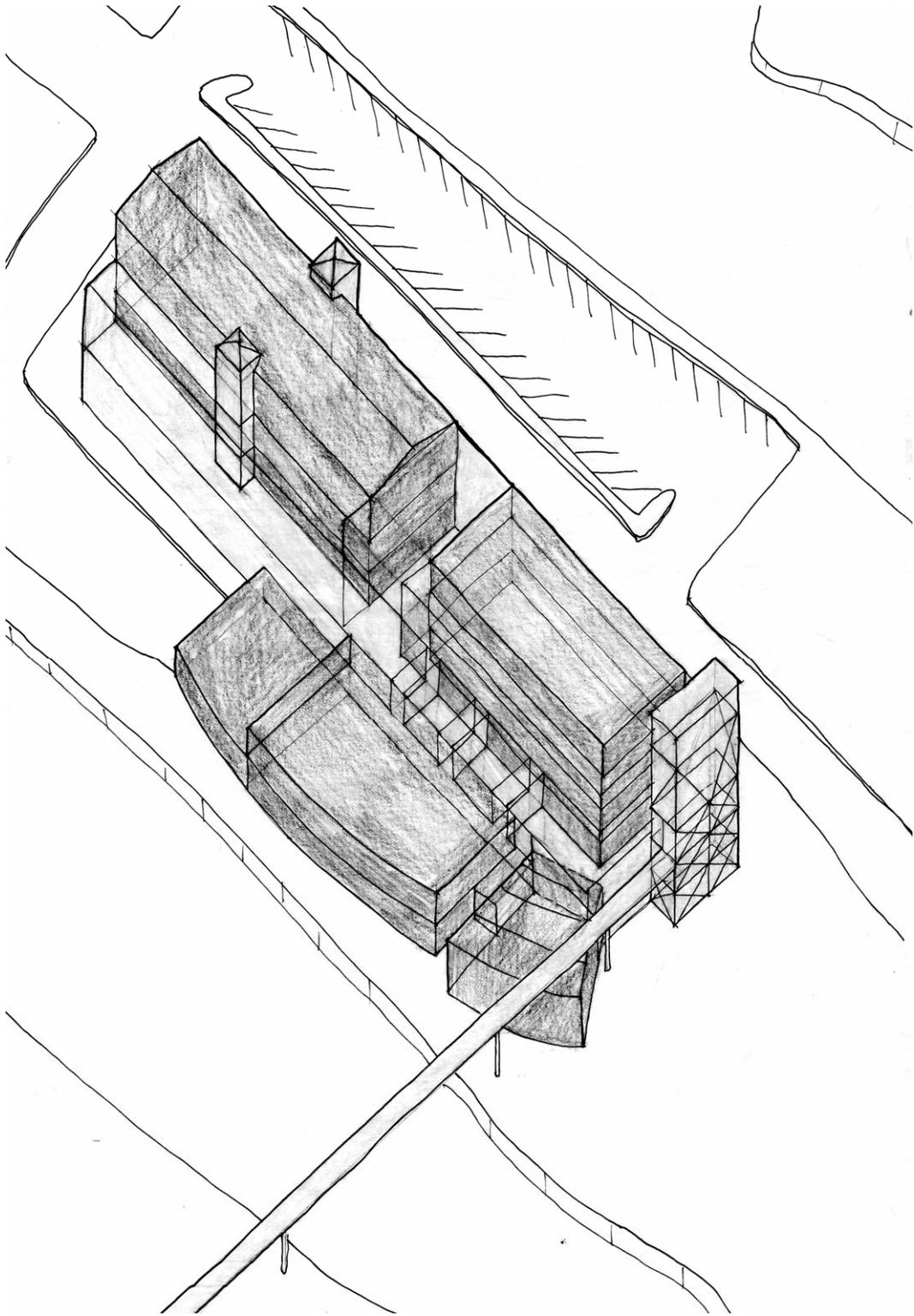


Figure 117: Scheme B program relationship axonometric

Scheme C Museum

Objective: to create a design that addresses the internal “street” idea, this is illustrated in all of the historic mills. The organization of historic mills begins to take on a sense of community in the industrial facilities in the relationships each building creates with one another. Individual buildings, serving different functions, define an internal “street” by close adjacencies and openings in and around each building. Often times the adjacencies allows for a secondary form of connection made by bridges overhead.

Proposal: to draw on some of the cultural identity of the historic mills’ organization and produce a design that is both iconic and emotive in the characteristics and symbolism.

The organization of the new components in the museum would create an internal circulation method similar to the ones shared by many of the mills in New England.

Openings in and around the buildings would provided the spaces for reflection, interaction and sometimes demonstration.

Scheme C Museum

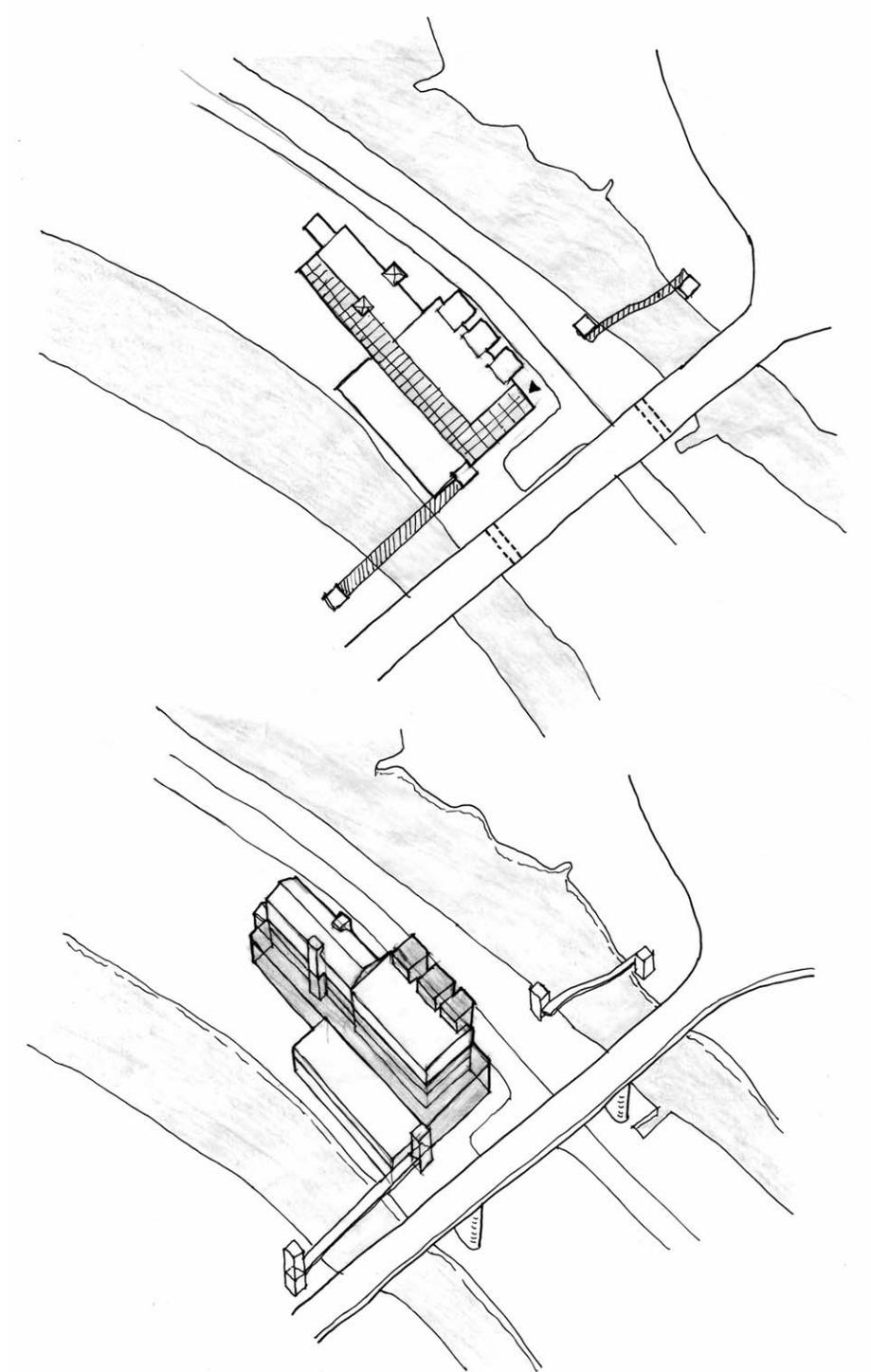


Figure 118: Site plan of scheme C without the removal of the Sweeney Bridge

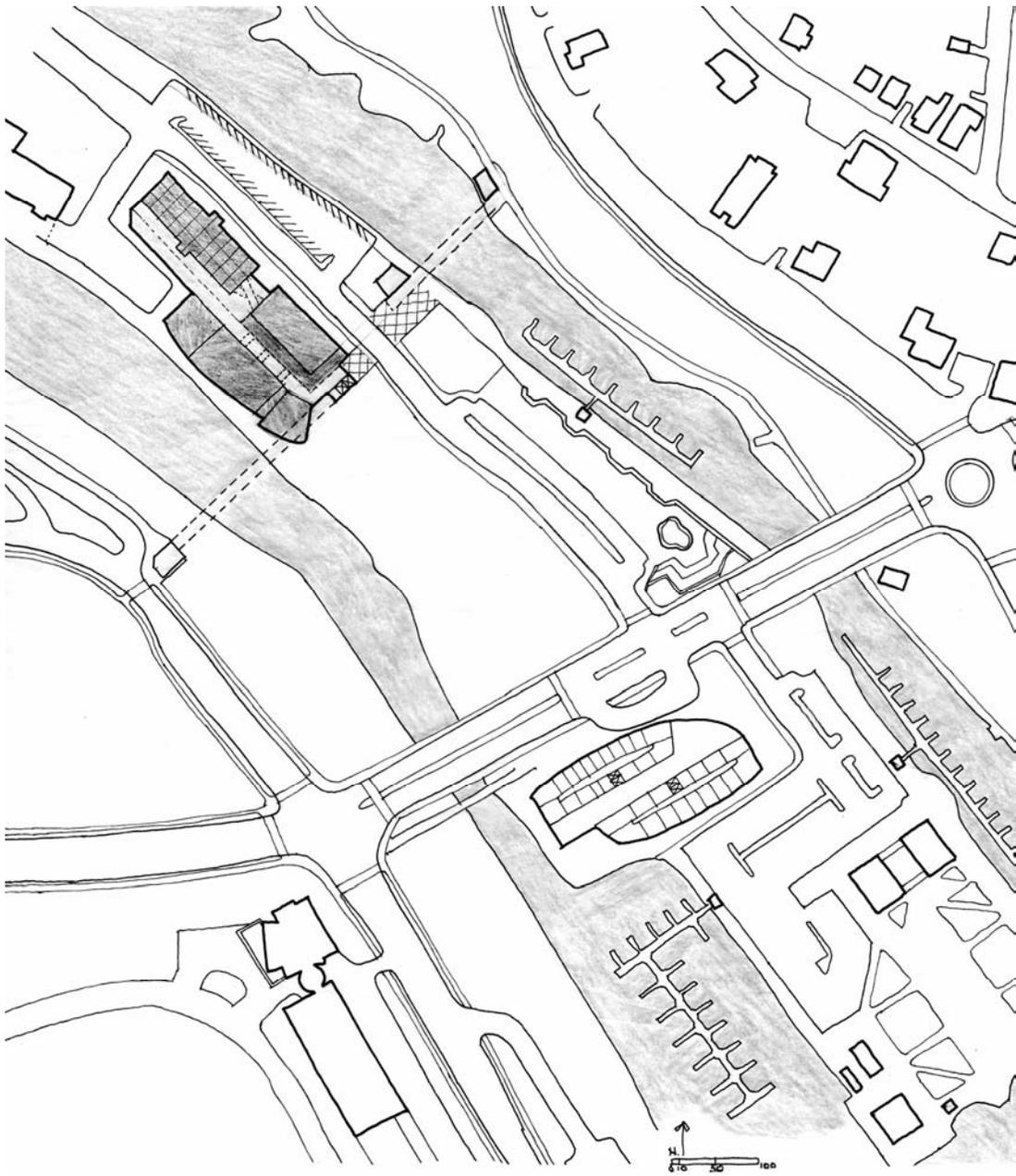


Figure 119: Scheme C (modified) diagrams showing the museum without Sweeney Bridge

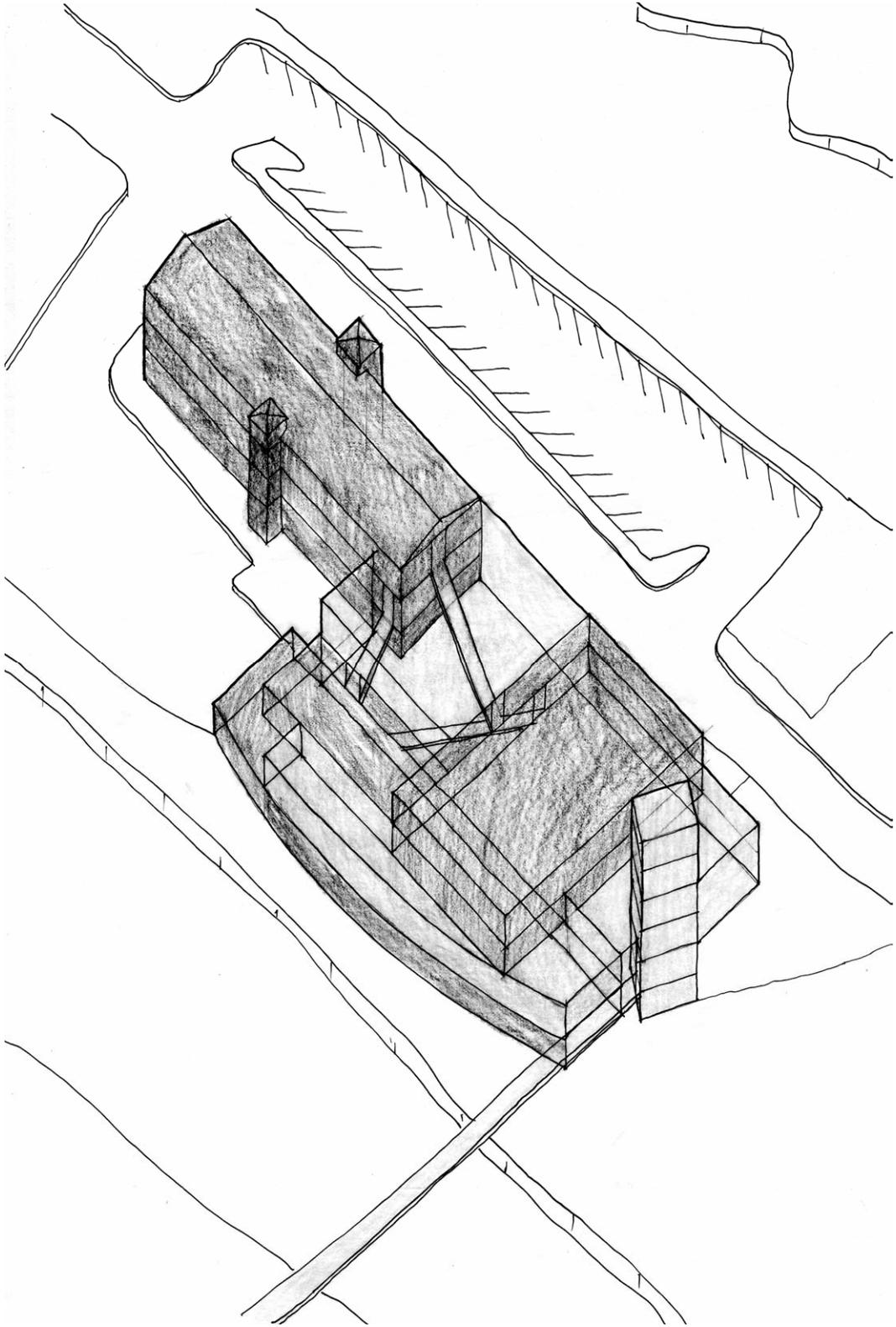


Figure 120: Scheme C program relationship axonometric

DESIGN CONCLUSIONS

Urban Revitalization Strategies

Upon further analysis of the existing conditions of the urban context, the challenge to this thesis lies in the connections that need to be made physically and culturally to the site. Having established that the site has accessibility issues for cars and pedestrians, this thesis explored the paradoxical removal of Sweeney Bridge, which was added by traffic engineers in 1986 to increase the amount of outbound traffic from Downtown, in order to allow a physical and visual connection to the American Wharf. The removal of this elevated bridge allowed Hollyhock Island to be explored as a destination to which both communities, Downtown and Westside, can utilize the island as a cultural/recreational space in conjunction between the Museum of Industry and the American Wharf. Subsequently, the round about turning lane left over on the south side of Sweeney Bridge can be transformed into a mixed-use development. The proposal for this development involves a mixture of apartments, lofts and condos over a ground floor of retail and other service oriented facilities tailored to the younger professional demographic.

As a result of removing Sweeney Bridge some traffic problems in Norwich have to be addressed. This thesis proposes a solution to widen the existing West Main Street connection to the island by two lanes. This expansion will allow for two lanes of traffic inbound and two lanes of traffic outbound while accommodating for lanes of bicycle travel. This proposal intends that all inbound and outbound lanes of traffic connect with the island which greatly increases the accessibility to this destination.

Finally, looking at the larger context of the city and waterfront, this thesis proposes creating a waterfront park and open space on the island to facilitate the physical

linkage and celebrate the cultural connections to and on the island. Instead of creating a flagship development, as hypothesized, this thesis makes the physical and cultural connections through landscape and the combination of the Museum of Industry and the American Wharf facilities. Keeping the built urban edge of the city away from the waters edge allows for a continuous waterfront promenade to be the generator of the proposed urban revitalization.

Model Shots



Figure 121: Model shot of existing conditions. View from the south.

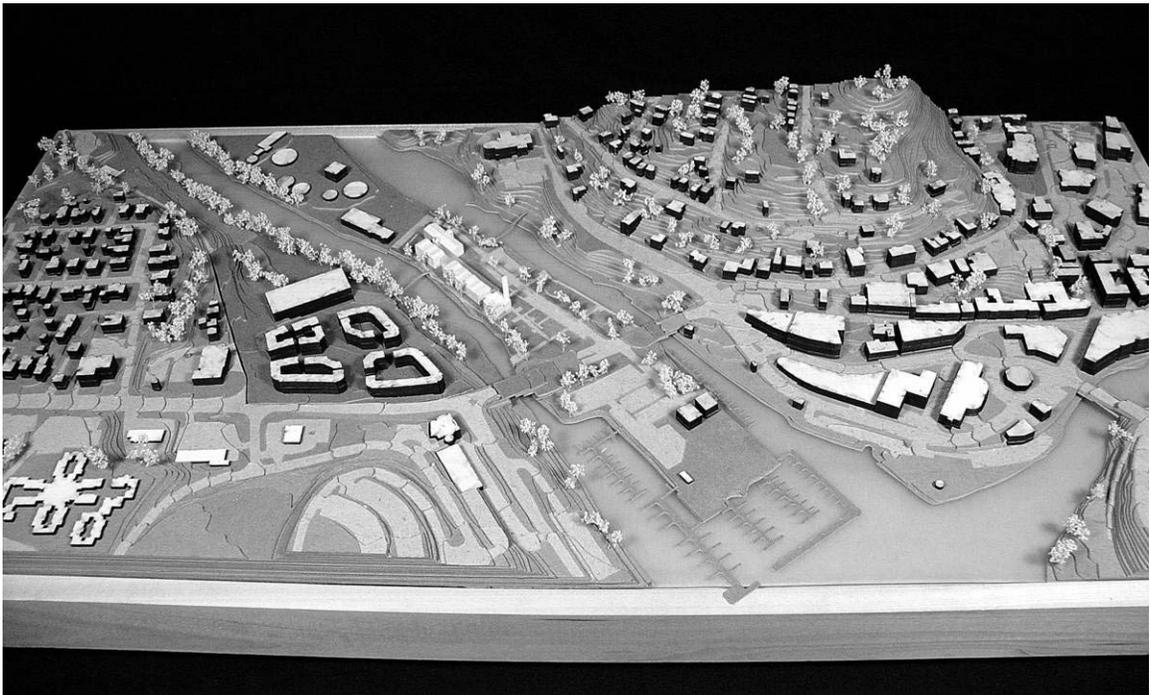


Figure 122: Model shot of proposed conditions. View from the south.



Figure 123: Model shot of existing conditions. View from the east.

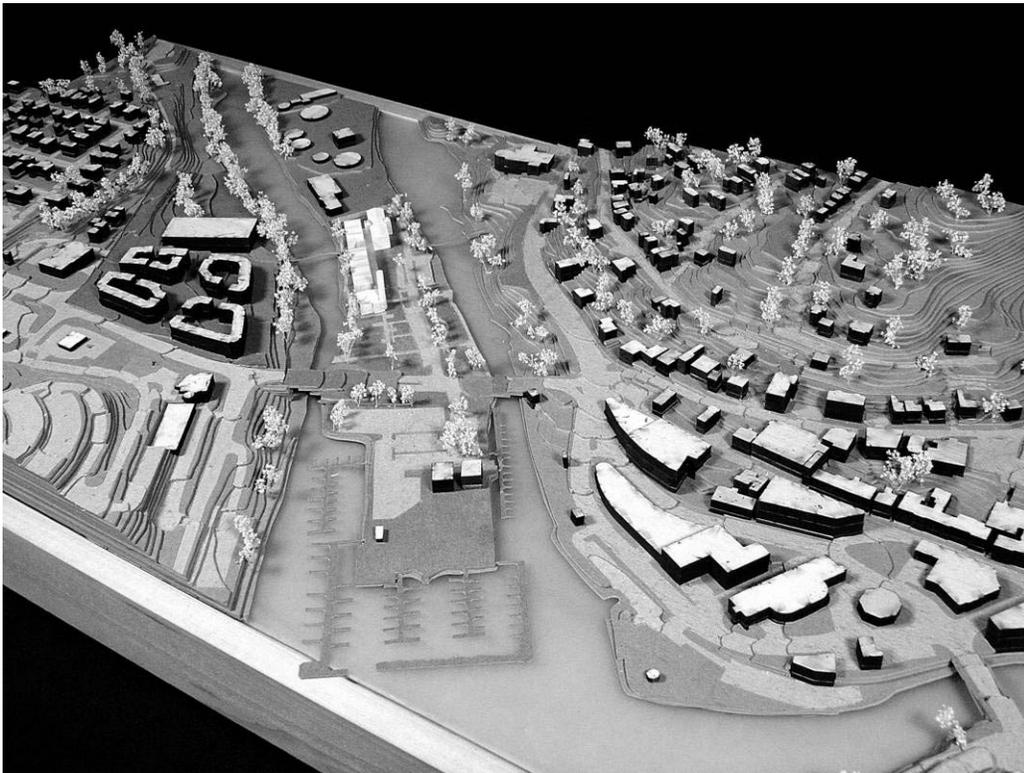


Figure 124: Model shot of proposed conditions. View from the east.



Figure 125: Model shot of existing conditions. View from the west.



Figure 126: Model shot of proposed conditions. View from the west.



Figure 127: Model shot of existing conditions. Aerial view.



Figure 128: Model shot of existing conditions. Aerial view.

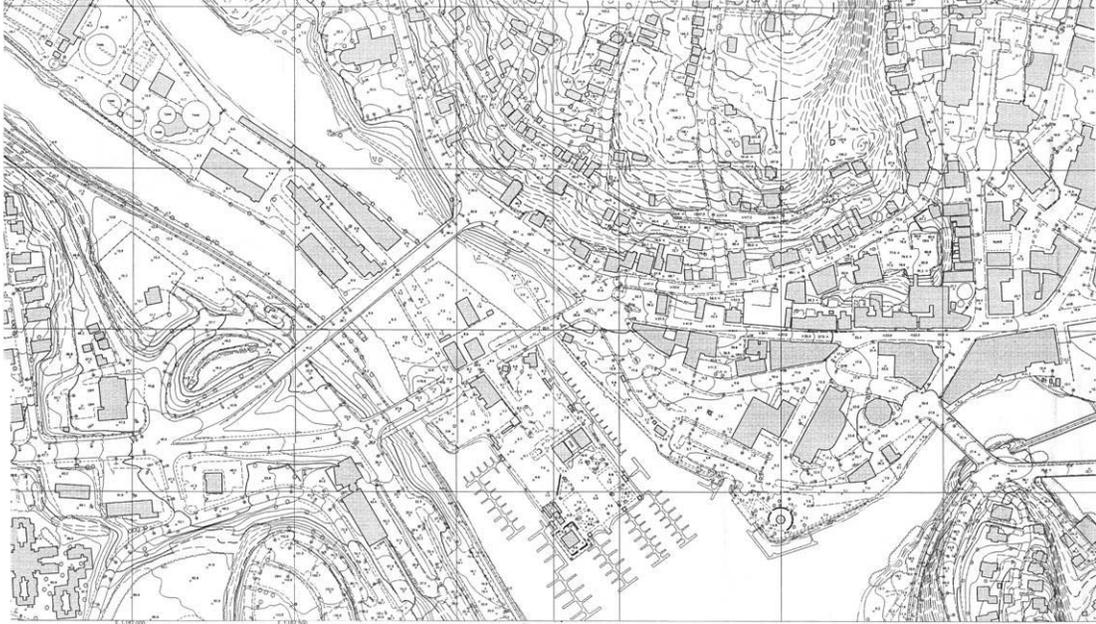


Figure 129: Site plan- existing

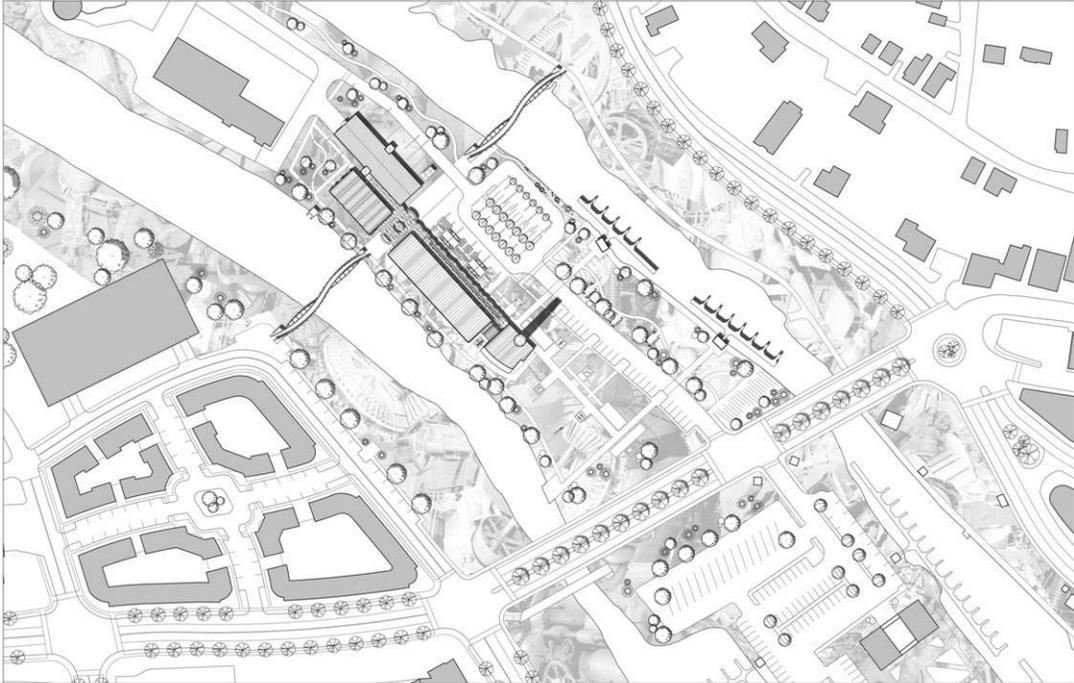


Figure 130: Site plan- proposed

Building and Hollyhock Island Proposal

The environs surrounding the Museum of Industry and extending to the edge of West Main Street to the east have been developed as a central park for the residents of Norwich to share as well as visitors from around the region. A figure ground begins to emerge in the form of a solid vs. void relationship. That relationship is illustrated by the museum becoming the solid and the “lawn” diagonal from the museum becoming the open void. It is important to create a destination on the island that has multiple functions so it can sustain its use year round. The space that shares the south side of the island becomes a landscape extension from or to the museum depending how one looks at it. Industry as a process became the narrative for the landscape design. The geometric shapes give the allusion of industrial scars on the ground while symbolizing the deliverance of raw material (or people unenlightened in the history of milled industry) to the museum complex. As the shapes move closer to the museum they become more regular or refined in their anticipation for the linear process of manufacturing or education within the museum spaces.

Once inside the museum the visitor is met with the first of two symbolic gestures relating to smoke stacks. The metal screens hover overhead as a constant reminder to the other important natural resource, the air. The visitor can then travel through the various illustrative and demonstrative exhibits terminating the visit on an inclined travelator which delivers the “enlightened” visitor down to the exit like a finished product from a mill. Before that visitor leaves, the second of two symbolic elements looms overhead. A smoke stack wrapped in a translucent glass surface serves as the last symbolic gesture to

the natural elements as well as to the symbol of industrial mills throughout Norwich and Connecticut.

The form of the building gives an allusion to the organization of the mills while drawing on the old mill for comparisons and contradictions. Two concepts evolve from the presence of the old mill, solid vs. void and static vs. dynamic energy. The dichotomy of solid vs. void is illustrated in the form of transparency and translucence. Exploiting the limitations created by the construction of the old mill, the new additions oscillate between large expanses of transparency and opacity. Creating the addition out of a steel frame structural system allows the exterior envelope to be hung like a piece of fabric independent of the structure it sits on. This lightness permits varied openings to puncture the façade in order to express the independence of structure from the enclosure. This is a distinct contradiction to the form and structure of the old mill.

Static vs. dynamic energy are introduced in the form of a wavy pattern of glass and masonry. This museum does not just demonstrate advances in mechanization but also in building technology. The museum showcases how contemporary building practices explore how one thinks about a traditional solid material such as brick. Also this wavy gesture unifies the new structures adjacent to the old mill.

Finally, to substantiate putting a Museum of Industry in such a prominent location, the design had to be iconic and eye catching. A comparison can be drawn between the gaudy exteriors of the nearby casinos and the Museum of Industry proposal as an eccentric model to which both are necessary to allure visitors.

Final Drawings

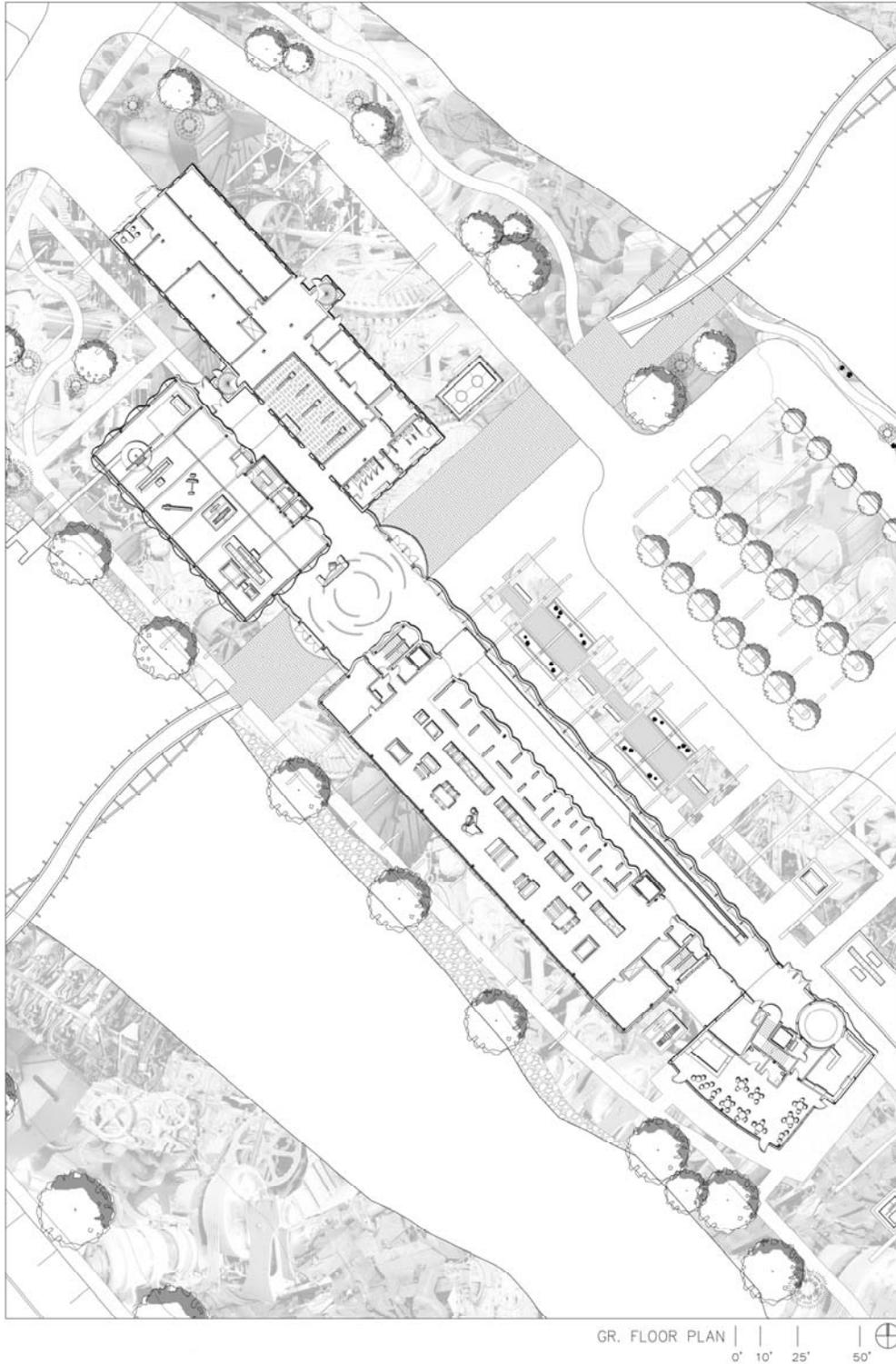


Figure 131: drawing showing ground floor plan

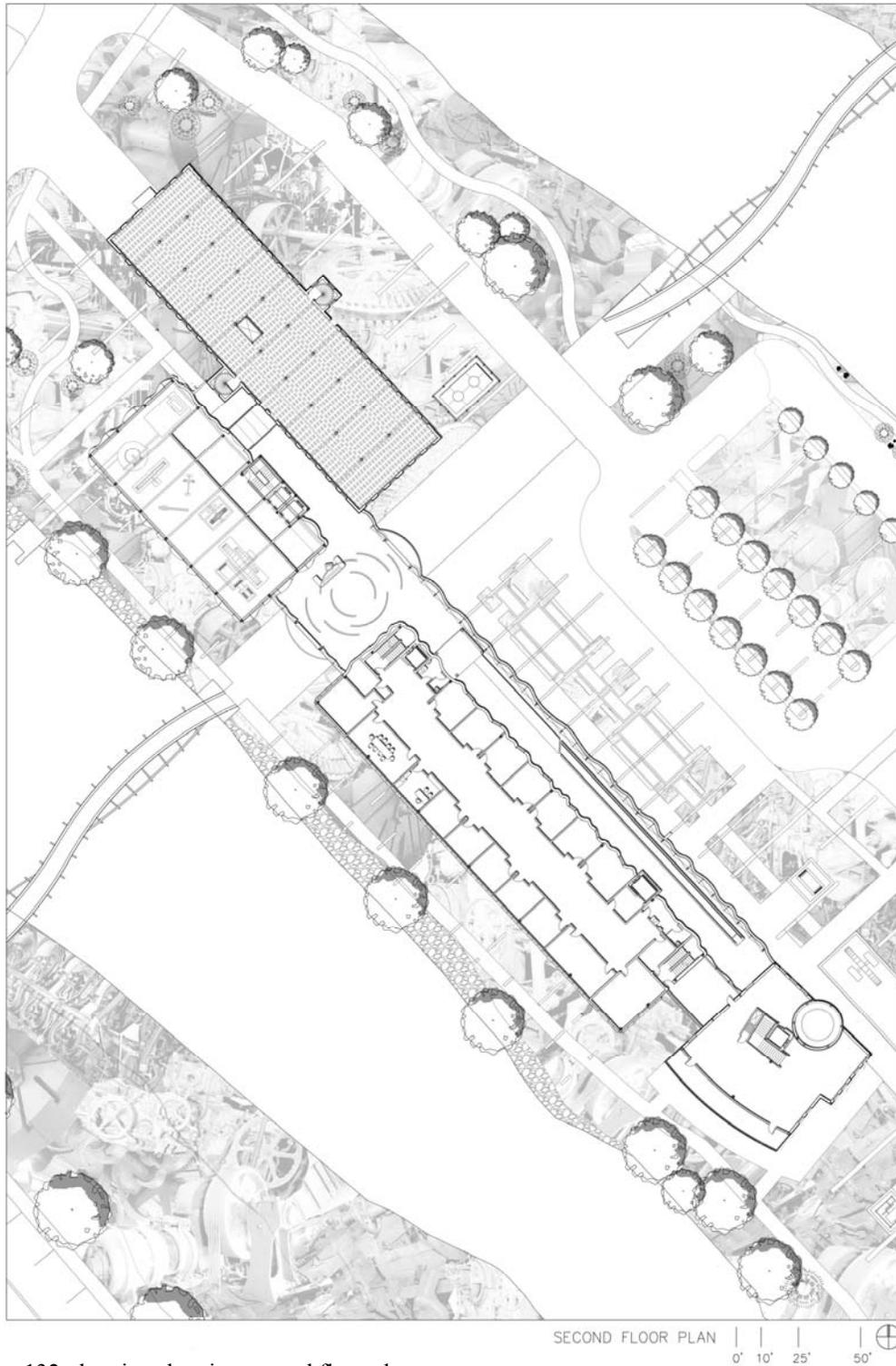


Figure 132: drawing showing second floor plan

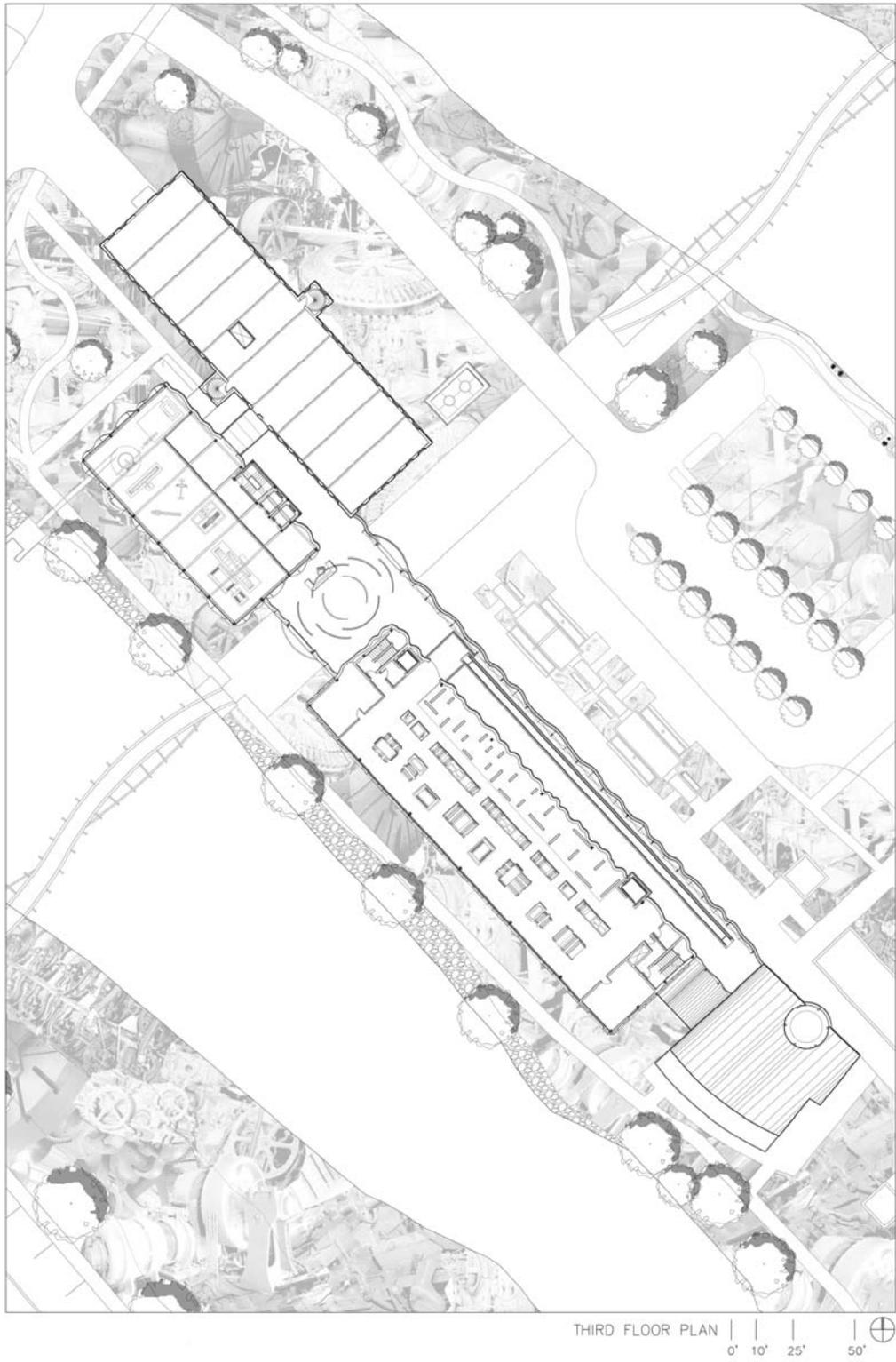


Figure 133: drawing showing third floor plan



Figure 134: perspective from Heritage Trail



Figure 135: perspective from West Main Street



Figure 136: Aerial perspective looking south.



Figure 137: Aerial Perspective looking south

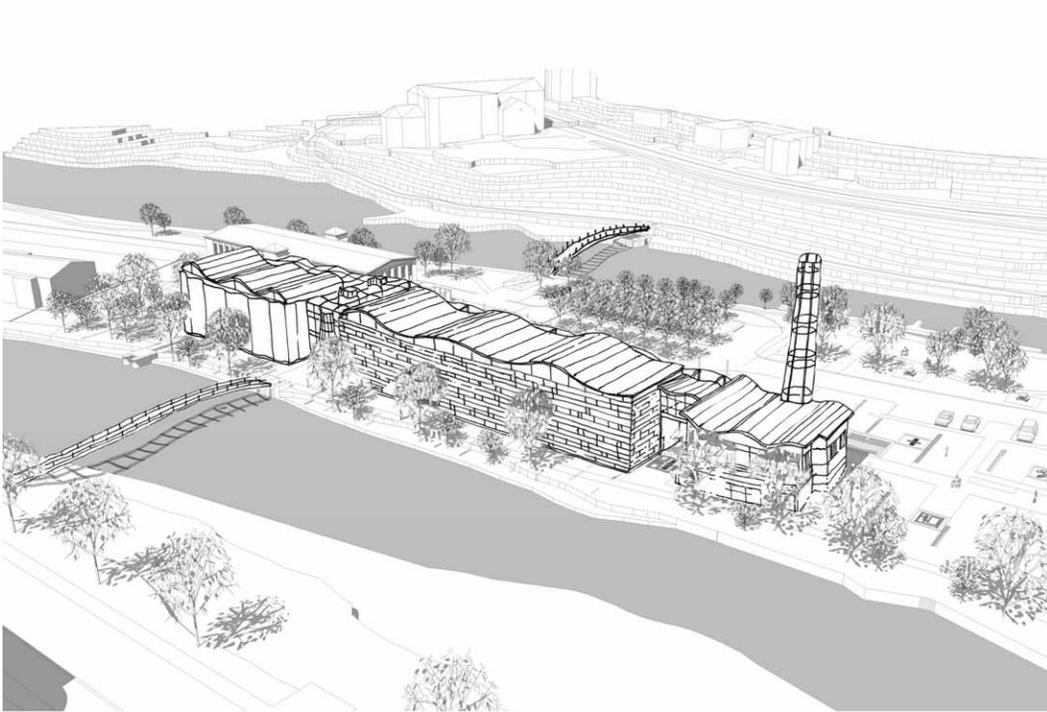


Figure 138: Aerial Perspective looking north.



Figure 139: Aerial perspective looking north.



Figure 140: Aerial perspective looking west

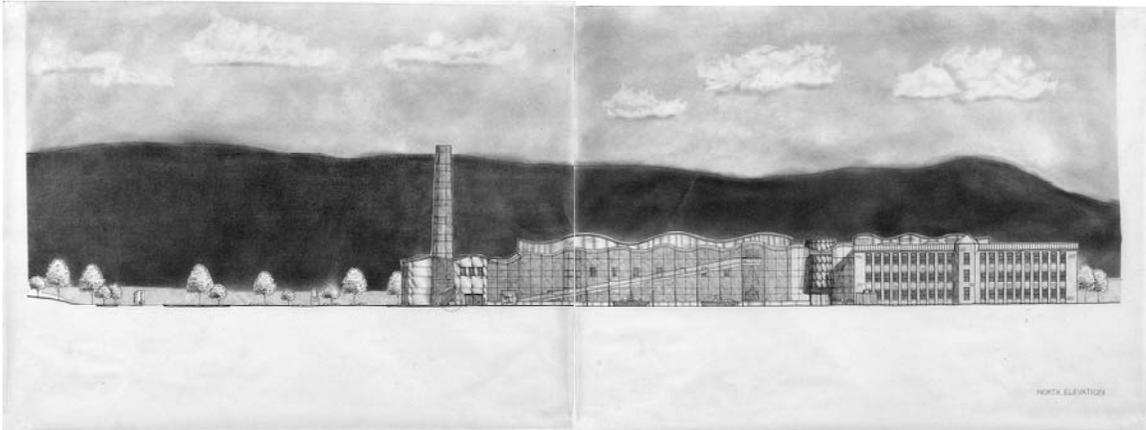


Figure 141: North elevation

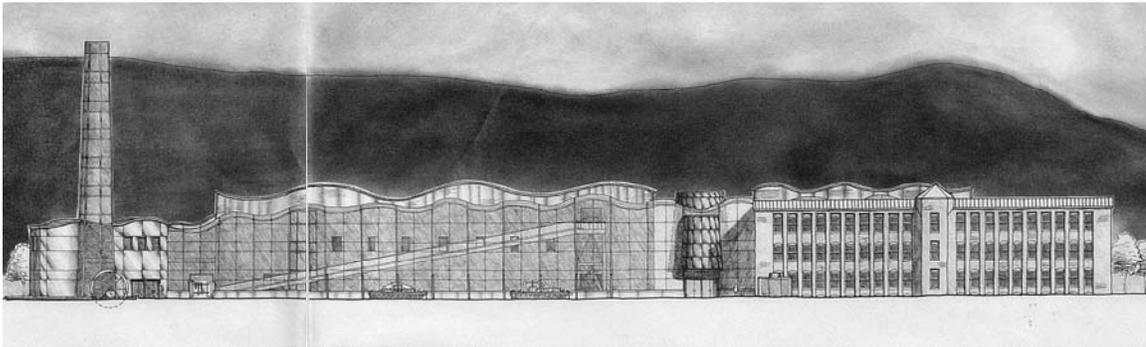


Figure 142: North elevation detail

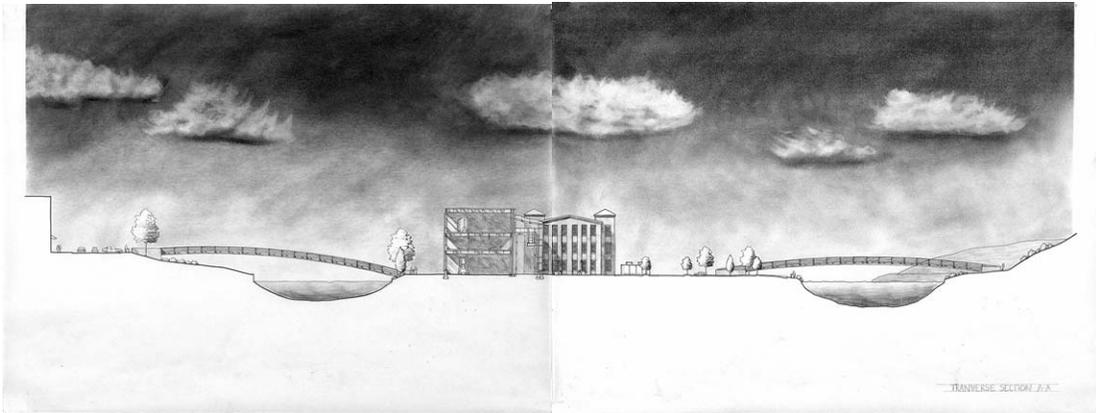


Figure 143: Transverse section through new gallery and atrium



Figure 144: South elevation

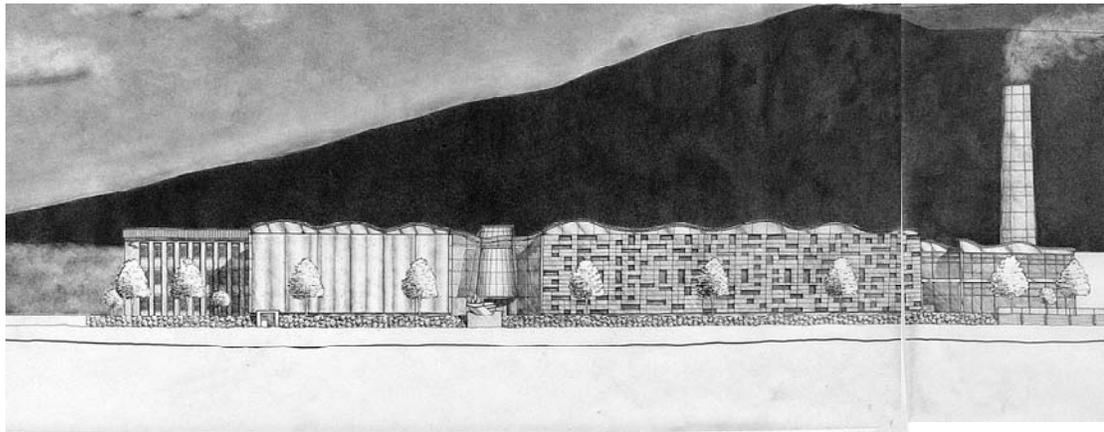


Figure 145: South elevation detail

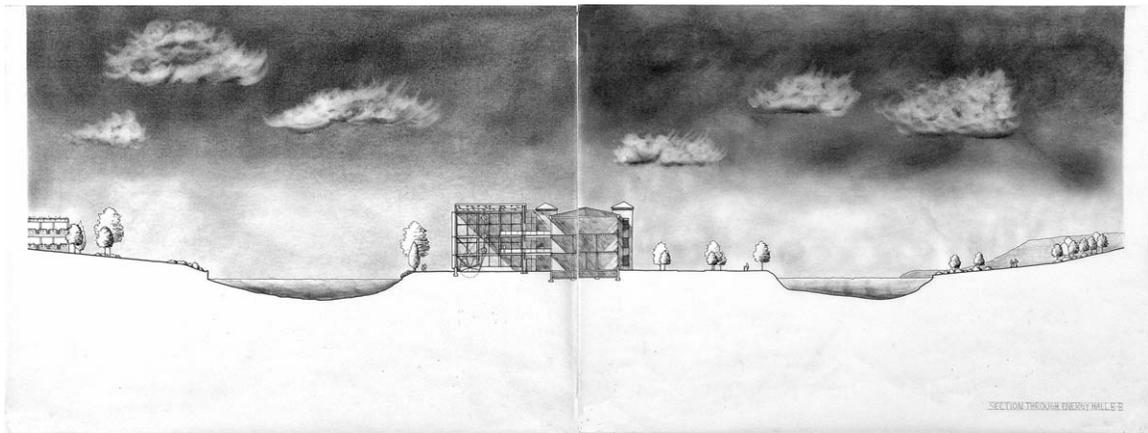


Figure 146: Transverse section through energy hall and old mill



Figure 147: Perspective from north bridge



Figure 148: Perspective from south bridge.

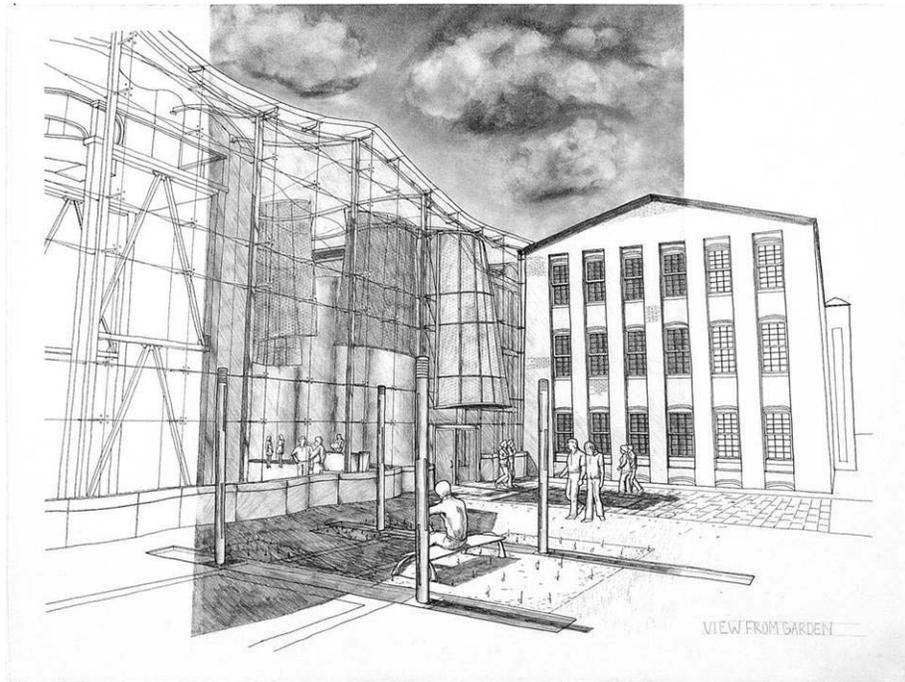


Figure 149: perspective view of north entrance



Figure 150: Perspective view of the lobby space

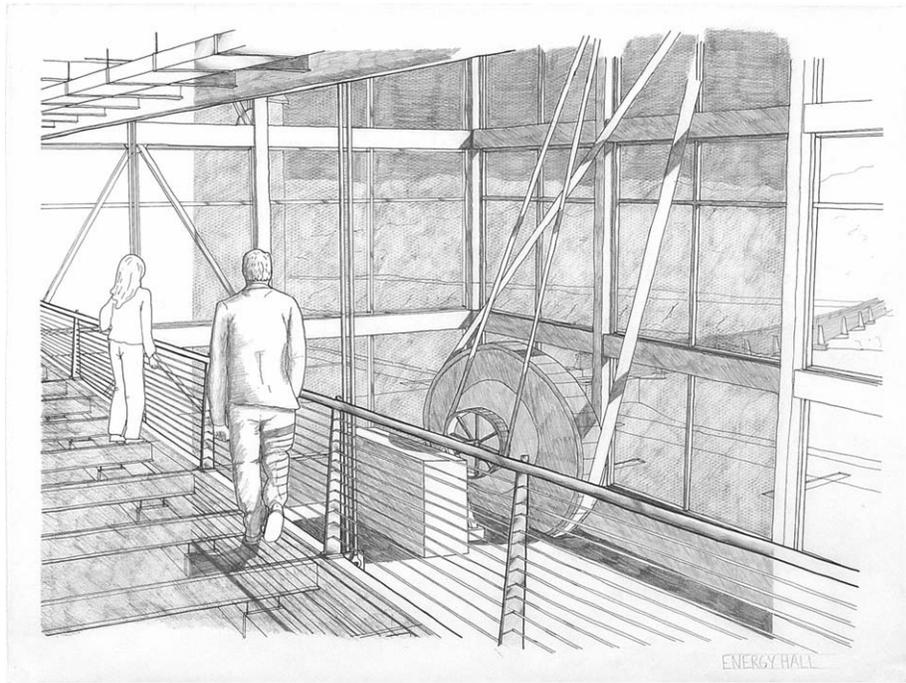


Figure 151: Perspective view of energy hall.

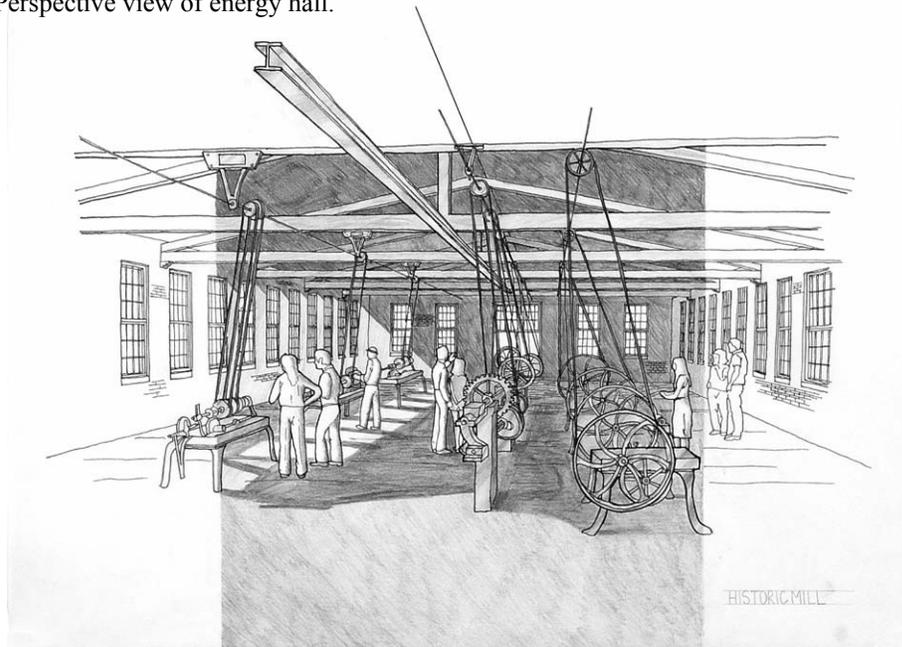


Figure 152: Perspective view of old mill

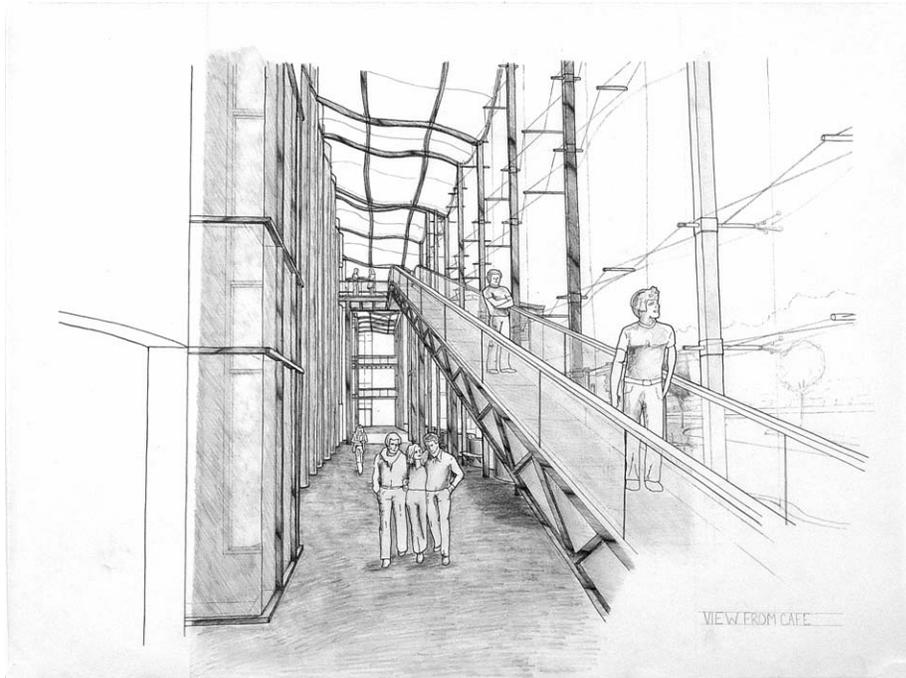


Figure 153: Perspective view from café.

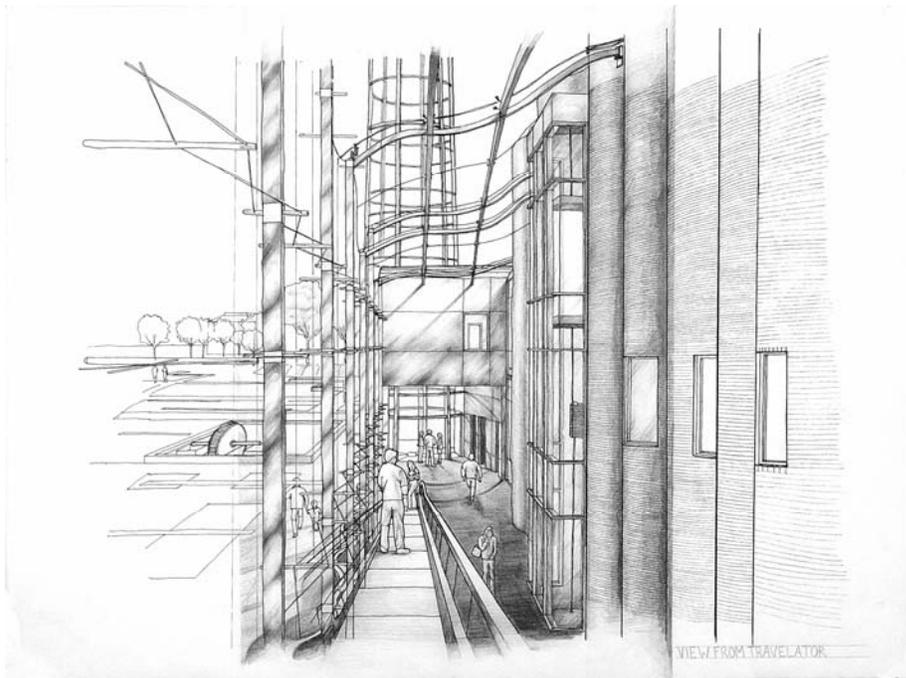


Figure 154: Perspective view from travelator.

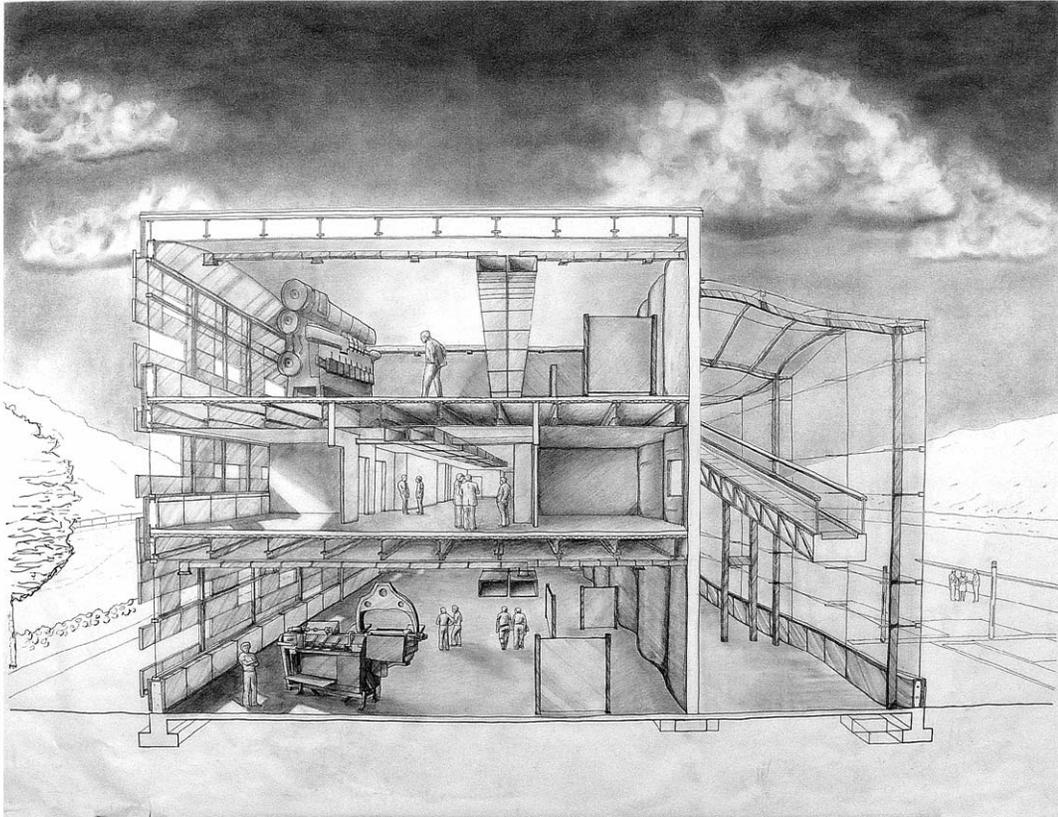


Figure 155: Section/perspective showing new gallery and office space.

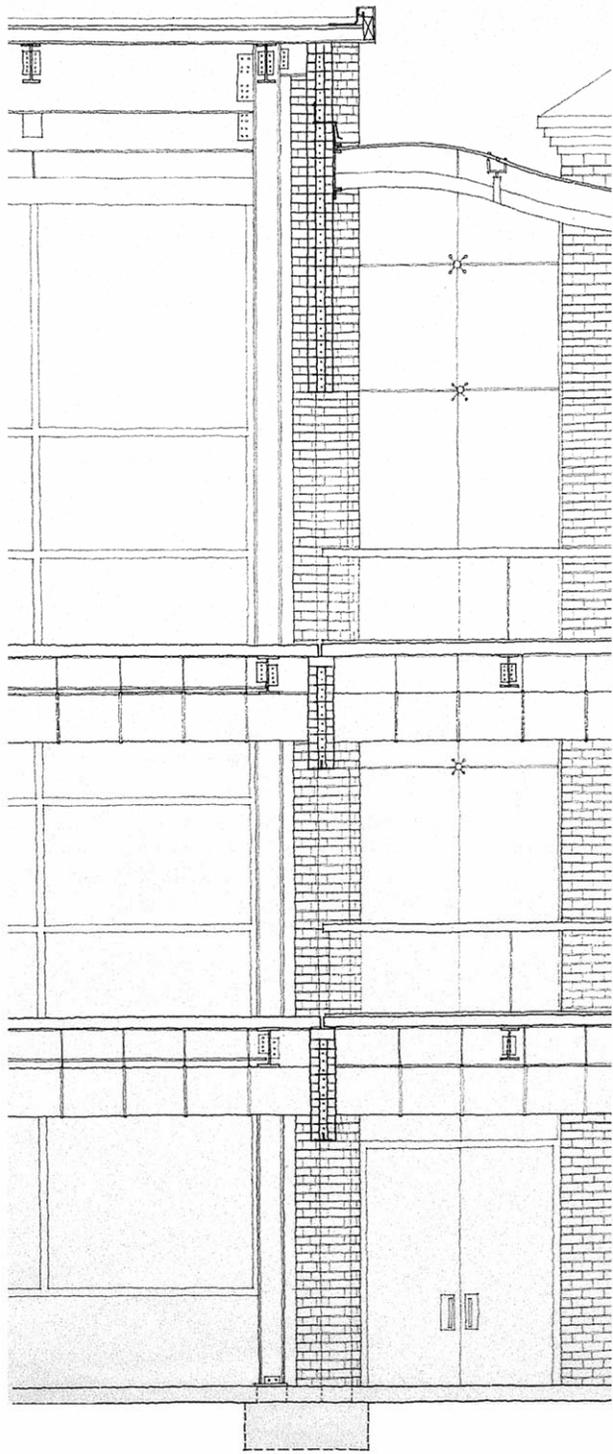


Figure 156: Typical wall section

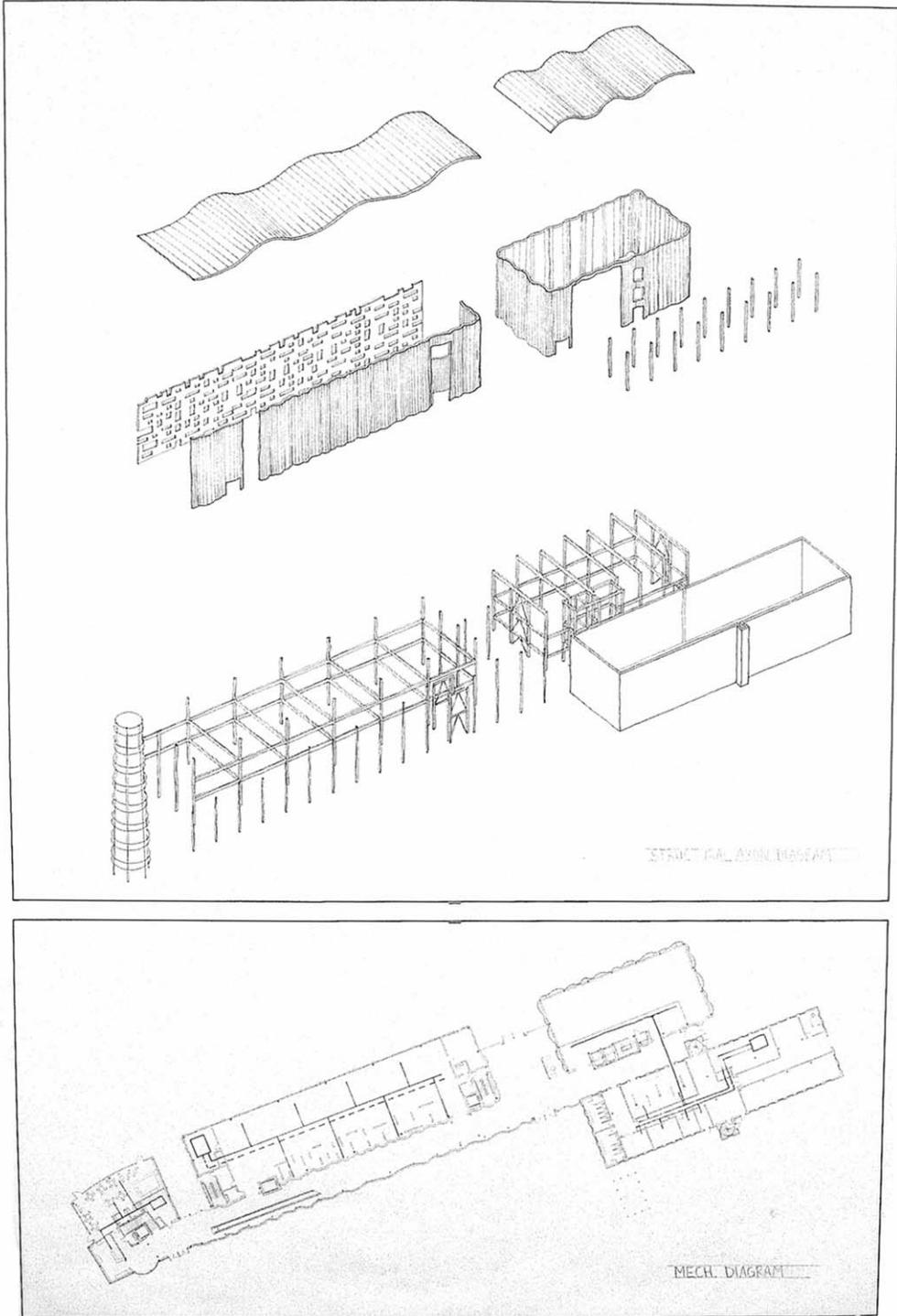


Figure 157: Structural and mechanical diagrams

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