

ABSTRACT

Title of Thesis: MODERN VERNACULAR: ARTS LINK EDUCATION
CENTER AND GALLERY, ASHEVILLE, NORTH CAROLINA

Ann Louise Neeriemer, Masters of Architecture, 2006

Thesis directed by: Professor Bill Bechhoefer, FAIA, Chair

This thesis explores how the poetry of place can be written in architecture by exploring how an urban environment engages its ecology. Asheville, NC, a small city in the heart of the southern Appalachian Mountains, has the opportunity to reclaim a historic industrial zone that is nearly abandoned. The area under study is in poor condition not only because of societal changes, but also because nature, in this case the French Broad River, is frequently in conflict with the human community.

Asheville's citizens are sensitive to their environment, ecology, and history. That culture is best and most famously expressed by musicians, painters, sculptors, poets, and novelists who have lived there.

The site is a neighborhood rich in history relating to the river, the community, and industries located at its edge. A new arts center located here serves to bring together the greater community with the artists already living here. The structure embodies and reflects upon the ideals and values of the culture while demonstrating sustainable building practices.

**MODERN VERNACULAR:
ARTS LINK EDUCATION CENTER AND GALLERY
ASHEVILLE, NORTH CAROLINA**

by

Ann Louise Neeriemer

Thesis submitted to the Faculty of the Graduate School of the
University of Maryland in partial fulfillment
of the requirements for the degree of
Master of Architecture
2006

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"...this is the chronicle of a river and a watershed, and a way of life where yesterday and tomorrow meet in odd and fascinating harmony. Beneath the deepest waters impounded by Douglas Dam lies buried the largest untouched Indian mound of the French Broad country. Our most ancient relic of man and our most recent trophy of his scientific skill rest practically side by side. ... Dwellers of the French Broad country are learning an ancient lesson in all their natural resources; it is easy to destroy overnight treasures that cannot be replaced in a generation, easy to destroy in a generation that which cannot be restored in centuries."

--Wilma Dykeman

From the introduction of her book The French Broad. (Holt, Rinehart & Winston, 1955)

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Chapter I: Introduction

Each community develops uniquely according to its own cultures and habits. Physical location influences and reinforces these ideals. The built environment of each place is a reflection of its values and ways of living. The idea of this thesis began with questions about how architecture responds to site both physically and culturally. The thesis explores the idea of the modern vernacular, asking how a structure can be designed to embody and respond to the ideals of the people who use it and the nature that surrounds it.

Most important to this study is the understanding of a unique site. Asheville, NC, is a small city in the southern Appalachian Mountains. From its beginnings Asheville, like other Western North Carolina communities, has thrived on local handicrafts. This tradition has been continued and transformed. Artists of all kinds are at home here; a gallery browser will find traditional hand crafts, modern art, and many interpretations in between. There is a gallery or artist's shop on almost every street in the downtown area.

The historically industrial area near the river's edge has become home to many artists who both live and work in rehabilitated warehouses and mill buildings. The river has served as a popular recreation site for many who like to canoe, kayak, and fish. Located in the heart of the Blue Ridge Mountains, Asheville attracts many outdoor enthusiasts who are both athletes and environmentalists. The rolling mountains are the primary attraction to the area. Great Smokey Mountains National Park is a short drive west from Asheville, as is Pisgah National Forest and the Cradle of Forestry to the south. The citizens of the city and region hold these treasures dear and actively contribute to their preservation and improvement.

This thesis believes that there is a strong connection between the majestic beauty of the natural environment and the arts culture that has grown up within it. Many local residents have been inspired by their surroundings to become artists, and artists from other regions have been attracted here because of its beauty.

To unite the two cultural values present here, a River Arts education center and gallery is envisioned. The Asheville Arts Council and the River District Artists will join with RiverLink, a non-profit organization which has led efforts to clean up the river and revitalize neighborhoods along it. Combining these two interests will help each to enrich the other.

The arts culture has many venues in the area but no single place where artists can interact with each other as well as share their practices and sell work to the public. RiverLink has been successful in building a number of parks and sponsoring a master plan study for a 16-mile riverway. Both RiverLink and the artists have a vested interest in the future development of this neighborhood. A new public center will draw interest to the riverfront and help to publicize the interests and goals of the River Arts.

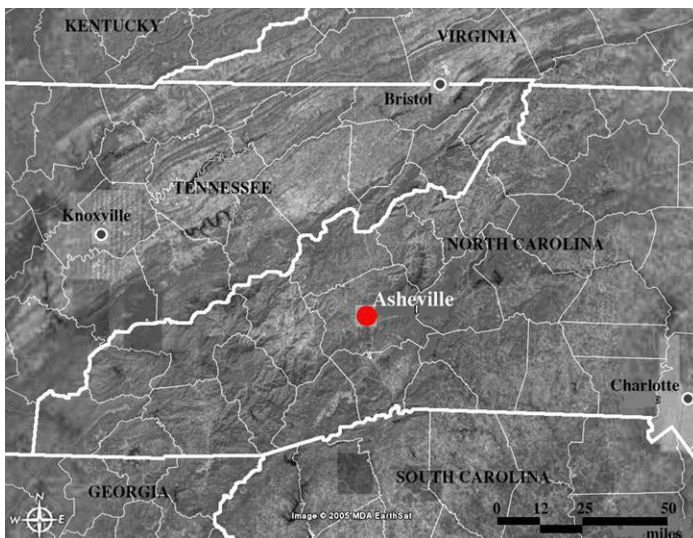


Figure 1: Regional location map¹

¹ Google Earth

A Reflection of the Past, Gently Molded With the Present
Refined, yet rugged. Old world, yet modern. A place where
time seemingly stands still, while silently forging new
frontiers. A place filled with heritage and charm from days
gone by. The mountains of Western North Carolina, a
woven tapestry of natural beauty, modern amenities, and a
culture rich with generations of art, history, and pride.

*~Western North Carolina Regional Economic
Development Commission*

Chapter II: Site History

The French Broad River of Western North Carolina is the third oldest river in the world.² The river itself, therefore, has a long and rich history with many stories to tell. Of interest to this thesis are the stories and events which relate to the river's passing through the city of Asheville. Because this thesis explores the connection between culture and the built environment, this chapter includes details about the heritage and culture of the river and the city.

When the Europeans arrived, the watershed of the river was inhabited by the Cherokees, who called the river Long Man the River, "Agiqua", and its tributaries the "Chattering Children." They called the rapids north of Asheville (down river) Tahkeyostee or "Where they race". The lands of the Cherokee were repeatedly reduced by treaties until in 1838 they were forced out except for a small remnant of resisters who remain and are called the Eastern Band. The path of their removal to Oklahoma is referred to as the Trail of Tears. More than one quarter of their population died along the trail.³

In the early 1800s Drover's Road passed through Asheville along the river. This was the path traveled by drovers bringing hogs, cattle, and turkeys from Kentucky and Tennessee to trade in South Carolina. In 1827, the road became the Buncombe Turnpike, allowing for greater travel, which brought growth to the city. Drovers, settlers heading west, and visitors lured by the mountain beauty, all crossed paths along the turnpike.⁴

Southern Railway completed its connection to Tennessee in 1882. This spurred new growth and the region's reputation as a 'spa' and tourist destination was becoming widespread. Tourists and invalids alike came to the area for rest, relaxation, and

² www.main.nc.us

³ Dykeman 38-40

⁴ Dykeman 147

recuperation.⁵ This meant progress along and near the river. Businesses and accommodations were needed for the travelers.

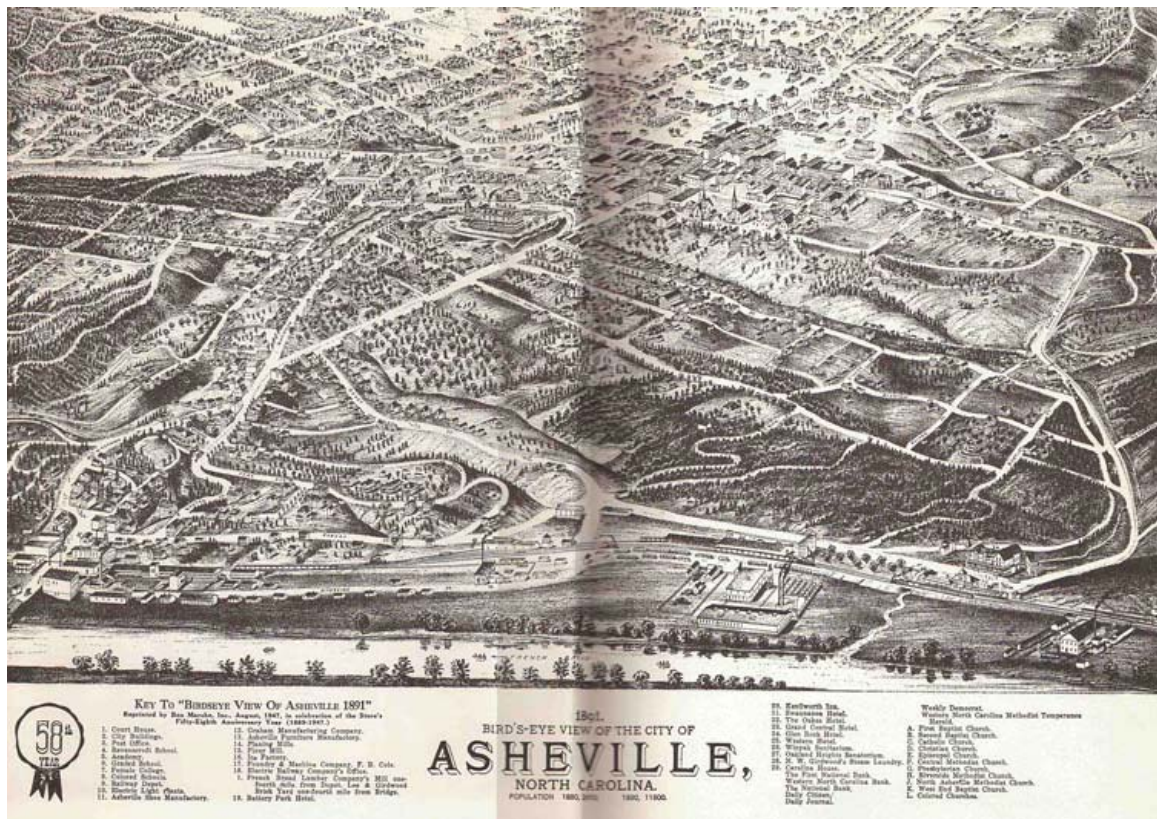


Figure 2: 1891 Aerial View.

This view shows the uses along the river and its connection to the city. On the right of the image, Glenn Rock Hotel sits across from the Rail Depot. Other uses include three factories and some small homes.⁶

The Eagle Hotel on Main Street in 1814 was the first of many large hotels to be constructed in the city. Growth continued through the 19th century. In the five years 1880 to 1885 the population nearly doubled from 2,600 to 5,000. In 1886 the "summer people" were counted at 30,000.⁷ The large Glen Rock Hotel can be seen in the lower right of the drawing above.

⁵ Dykeman 160, 183

⁶ Langley, cover

⁷ Langley 21, 34

George Vanderbilt's Biltmore Estate was completed in 1895. Still America's largest home, the chateau was designed by Richard Morris Hunt.⁸ The grounds of the 125,000 acre estate were designed by Frederick Law Olmsted who designated 250 acres surrounding the house to be formal gardens and convinced Vanderbilt to cultivate the remainder of the estate as a forest. This was the country's first large-scale forestry experiment. The view from the house includes the French Broad River in the foreground and the peak of Mount Pisgah beyond. Olmsted and Vanderbilt agreed to create a working estate modeled after the European concept. A truck farm for produce was established along the river bottomland as well as a dairy farm nearby.⁹ The dairy continued to operate and serve the community until the early 1990s.



Figure 3: View of the grounds at Biltmore Estate¹⁰

⁸ www.biltmore.com

⁹ Todd 156-158

¹⁰ Lambert

Following the death of her husband, Mrs. Vanderbilt donated 86,700 acres to the Federal Government in 1914 to create Pisgah National Forest. In 1968, 6,500 acres of this land was designated as the Cradle of Forestry in America. The forestry experiment at the estate was developed to ensure a healthy and productive forest. Today, the Cradle of Forestry continues this experiment which protects soil and water resources as well as wildlife habitats, aesthetic views, and recreational areas.¹¹

O. Henry, William Sydney Porter, was born in Greensboro, NC, and married Sara Coleman, whose family had a home in Asheville. In 1908 and 1909 the couple stayed in Asheville, and he kept an office downtown to write. The next year he died in New York City and was buried in Asheville's Riverside Cemetery.¹²

Creative people have always been attracted to Asheville. Other authors who have visited or written here include Wilma Dykeman, F. Scott Fitzgerald, and Carl Sandburg.¹³ The film industry has also been important in this city. In 1921, *Conquest of Canaan* was shot in the city and opened the door to features like *Tap Roots*, the 1948 epic with Susan Hayward and Van Heflin, filmed in nearby Black Mountain. *The Swan*, a 1956 release starring Grace Kelly and Alec Guinness, was filmed at Biltmore Estate. The 1958 salute to moonshine and Robert Mitchum, *Thunder Road*, was filmed just one mile north of the thesis site. Perhaps the most well-known of recent years are the 1992 film, *The Last of the Mohicans*, and *The Fugitive* in 1993, starring Harrison Ford. Other recent films include *My Fellow Americans*, *Hannibal*, *Patch Adams*, *Songcatcher*, and *The Clearing*.¹⁴

¹¹ www.biltmore.com

¹² Langley 69

¹³ www.romanticasheville.com

¹⁴ www.ashevillefilmfestival.com

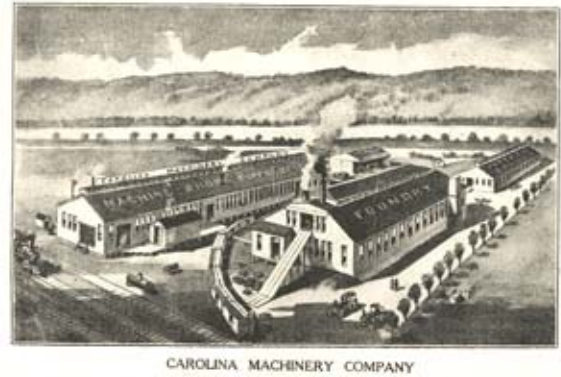
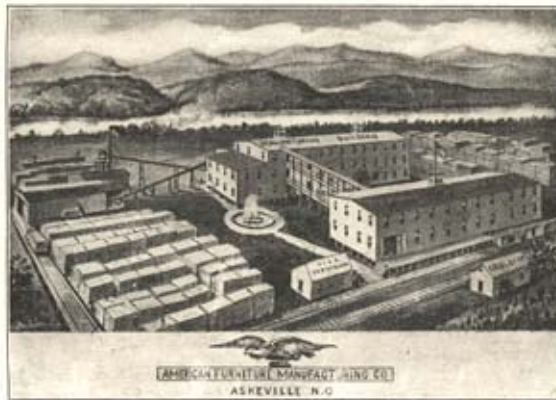


Figure 4: Images from 1912 lithograph¹⁵

By 1912, there were many manufacturing plants and warehouses located along the river. The bottom image may be the structure that remains on this thesis site.

The land east of the river is flat and easily accessible and so was ideal for the location of the railroad and industries. However, these site conditions have also made it prone to flooding. This is the primary reason that the area is under-developed today.

¹⁵ Fowler

The worst flooding of the French Broad occurred in 1916. Rains from two hurricanes drenched the area from July 5th through the 16th. Following the first storm, the river level had risen to beyond flood level (measured at four feet) to over eight feet, and the grounds were saturated. When the second storm hit on July 16th, the water level rose more than six feet in the first two hours, and the gauge was washed away. The crest of the flood was measured at 23.1 feet. The two storms caused more devastation in the Asheville area than anywhere else they struck in the Atlantic or Gulf coasts. In Asheville, more than 50 people were killed.¹⁶

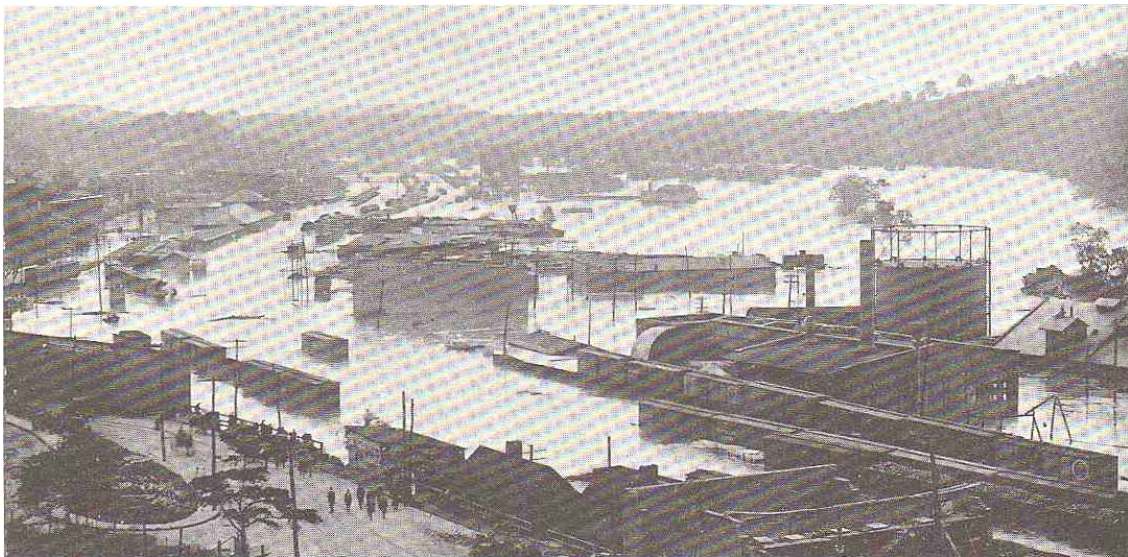


Figure 5: Flood of 1916.

This view south toward the Southern Railway Depot shows the extent of the flooded area.¹⁷

¹⁶ Dykeman 25

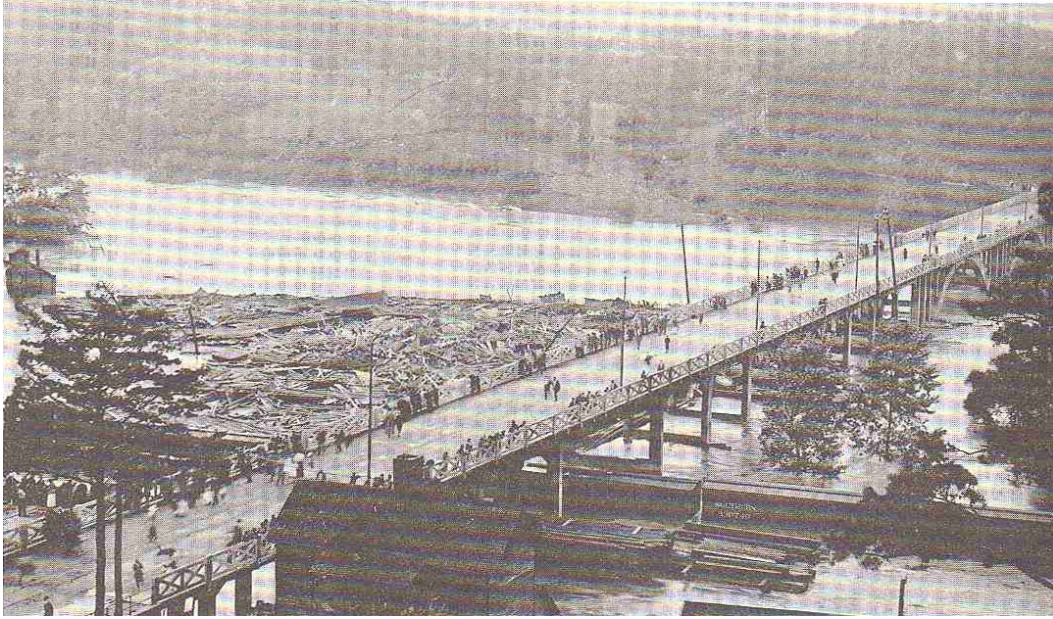


Figure 6: Flood of 1916

Debris is caught at the West Asheville bridge. This photo was taken just north of the thesis site.¹⁷

By the beginning of the 20th century, Asheville had a population of nearly 15,000 and attracted 50,000 summer people each year. This does not include the many who came to find a cure for respiratory diseases in the crisp mountain air. Mr. E.W. Grove of St. Louis visited Asheville in 1900 for treatment of a bronchial ailment. He was so impressed by the healthful benefits of the area that he decided to move here. Grove made a fortune selling his Chill Tonic and Bromo Quinine.¹⁸

Grove bought huge tracts of land and began building exclusive residential developments on Sunset Mountain in the Northwest section of the city, he also built the still famous Grove Park Inn and Resort. In 1923 he built the new Battery Park Hotel, a new urban hotel to replace the massive country-like structure that had stood for many years. He also began the Grove Arcade, which was never completed, but has recently been renovated to serve as a public marketplace. Grove's activity marked the beginning

¹⁷ Langley 78

¹⁸ Langley 57

of the land boom of the 1920s. During this decade the city's first skyscraper, a new city hall, and many other buildings were constructed.¹⁹

In 1930 two catastrophic events changed Asheville forever. First, the banks failed and the city and county governments, schools and many citizens were bankrupted. Second, local author Thomas Wolfe published Look Homeward Angel. This autobiographical novel presented ordinary life as literature; Wolfe exposed a hidden life of the city, describing secrets and deceit. Citizens of Asheville were not shocked at the subjects but only that Wolfe had exposed them.²⁰

Thomas Wolfe is an important character in the history of the city. His books describe for us the character of the people and the culture of Asheville in the early 20th century. He had a particular interest in the river. For Wolfe, the mountains were walls enclosing loneliness, but the river moved and changed and yet was timeless.²¹

Both Thomas Wolfe and George Vanderbilt have a continuing impact on the region. Living on two ends of the social ladder, a boarding house and a chateau, these two men were quite different, and yet quite alike. Their lives each demonstrate man's search for beauty and an idea of place through art. While Vanderbilt was not an artist himself, he deeply valued the quality that design and craft brought to his life. Wolfe did his searching through his writing, and his father had done the same through stone carvings.

1930 to 1950, as for most of the United States, was a period of alternating growth and stagnation. The southern mountains survived through a combination of traditional mountain culture economy and cottage industry.

¹⁹ Langley 58

²⁰ Dykeman 221

²¹ Dykeman 226,227

In 1940 the Smokey Mountain Bridge was completed over the French Broad River. Its span, high above what is now the Arts District, is 1,228 feet, connecting downtown Asheville to West Asheville.²²

Industrial activities continued to thrive along the river front until the 1960s, then quickly declined. By the 1970s almost all industry had abandoned the river district, which became an area of empty storefronts and seedy bars.²²



During the 1980s, new building and revitalization were taking place in downtown Asheville, and property values rose quickly. Artists who lived or had studios downtown felt the economic push to relocate. They found that the river district was an ideal location because property was less expensive, and the old warehouse and manufacturing buildings were ideal for large studio spaces. The artists could live and work in the same place and were inspired by the raw quality and hidden beauty of the river and the old buildings. Other fringe businesses relocated to the river front. The French Broad Food Coop found a home in the Chesterfield Mill; Highwater Clays bought and renovated several buildings into studios; a local clothing designer, Patti Torno, bought a cluster of buildings next to the railroad in which she now lives and works as well as renting studio space to other artists.²³

Today over 40 artists work in the River Arts District, and a studio and gallery walk is held at least once a year. In 2004 the city of Asheville accepted a Riverway

²² www.riverlink.org

²³ River District Studios

masterplan developed by Urban Design Associates for the non-profit RiverLink. The plan covers an area of approximately 16 linear miles of riverfront; it is described in greater detail in Chapter VI.

Following is a brief summary of the mission and purpose of some important organizations relating to the arts and the river.

RiverLink

Mission Statement: "RiverLink is a regional non-profit spearheading the economic and environmental revitalization of the French Broad River and its tributaries as a place to work, live and play."

Purpose: "RiverLink was born in 1987 of simultaneous efforts to address water quality concerns throughout the French Broad River basin, expand public opportunities for access and recreation, and spearhead the economic revitalization of Asheville's dilapidated riverfront district. As expressed in our mission statement, we focus on related issues that directly impact the environmental health of our region's rivers and streams and the growth and sustainability of our economy." ²⁴

Asheville Arts Council

Mission: "To enrich our community by educating all people in the Asheville area about the arts, advocating integration of the arts in all aspects of community life, and supporting

²⁴ www.riverlink.org

artists and arts organizations." Asheville Arts Council has been serving the community for over 40 years.²⁵

River District Artists

Asheville Art Museum

The only visual arts resource facility serving Western North Carolina. "We are committed to being a vital force in community and individual development and to providing life-long opportunities for education and enrichment through the visual arts." ²⁶

Southern Highlands Craft Guild

Located five miles outside of Asheville in the Blue Ridge Parkway's Folk Art Center, the Southern Highland Craft Guild has promoted crafts made by artists living in the southern mountains for 75 years.²⁷

²⁵ www.ashevillearts.com

²⁶ www.ashevilleart.org

²⁷ www.southernhighlandguild.org

"Each site has its own special qualities of stone and earth and water, of leaf and blossom, of architectural context, of sun and shade, and of sounds and scents and breezes."

-- *Charles Moore*

Chapter III: Site Description

The thesis site is located at the intersection of Lyman Street and Riverside Drive, in what is known as the River Arts District, one mile southwest of downtown Asheville. This site was chosen because of its central location in the district, where a rail crossing connects the Riverway to the downtown area. This is a key location for the beginning of redevelopment of the area.

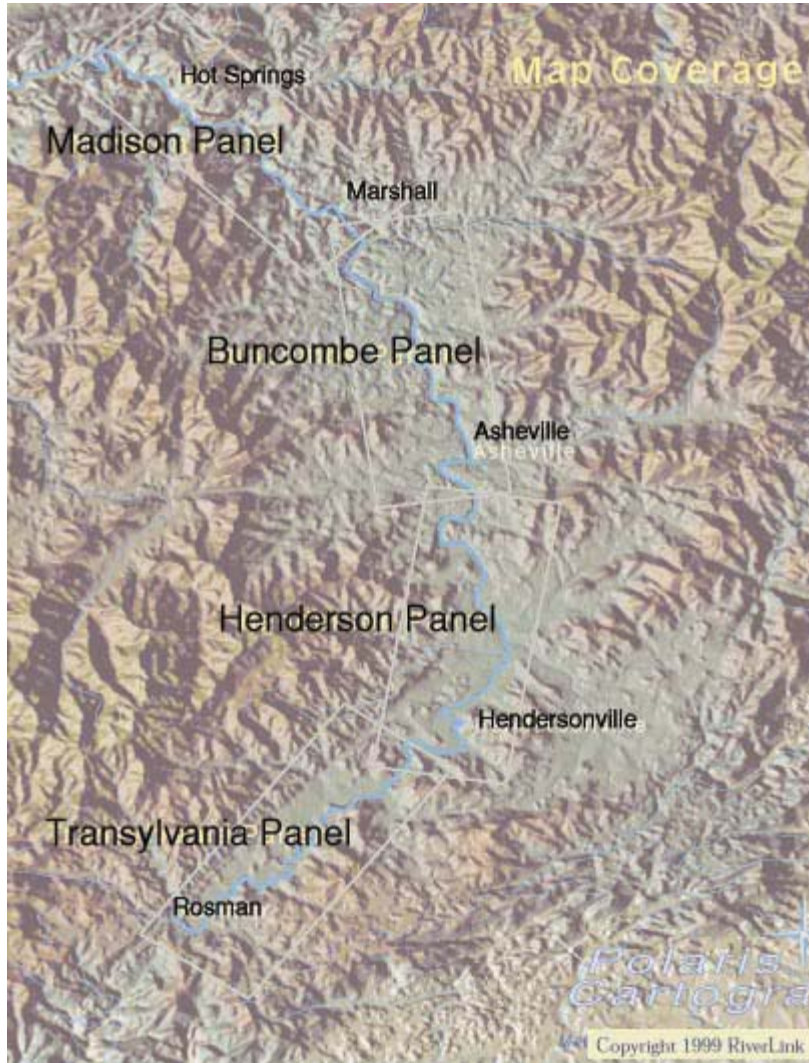


Figure 7: Relief Map

This map illustrates the river valley. The French Broad flows North -Northwest, beginning in Rosman, NC and eventually joining the Tennessee River in Knoxville. Major tributaries include the Little, Davidson, and Swannanoa Rivers, as well as Big Laurel Creek and Spring Creek in Madison County. The site for this thesis is located in the Buncombe Panel of this map. [RiverLink 1999]

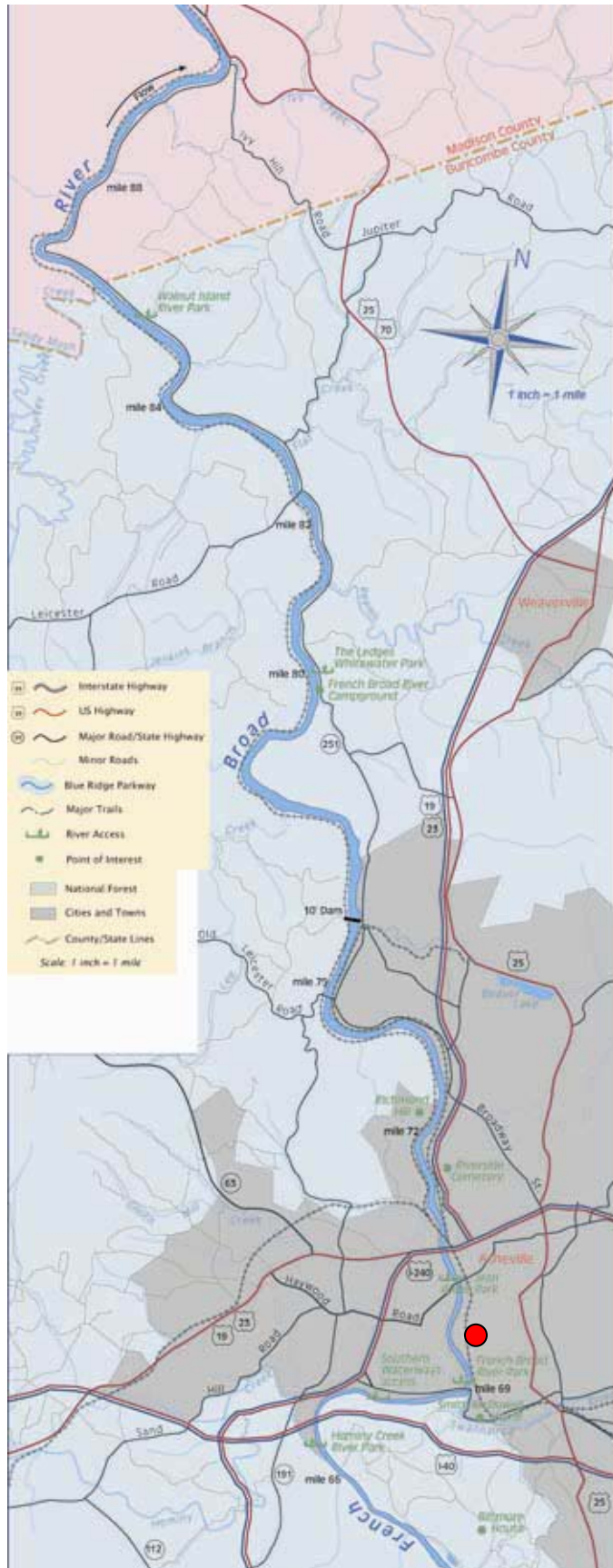


Figure 8: River Map

French Broad River Guide, Buncombe Panel. This map shows the river as it flows through Asheville. The river becomes less winding after it is joined by the Swannanoa River in South Asheville. [RiverLink 1999]

The thesis site is located on the eastern bank of the French Broad River, about one mile north (downstream) of its confluence with the Swannanoa River.

The site is currently used as a stone yard. The Carolina Coal Company formerly occupied the site, and the shell of the warehouse building bearing its name remains on the site. The building is unkempt and has been badly damaged by storms. It is a primarily brick structure with stone foundations. The interior floor and the roof are constructed of heavy timber.

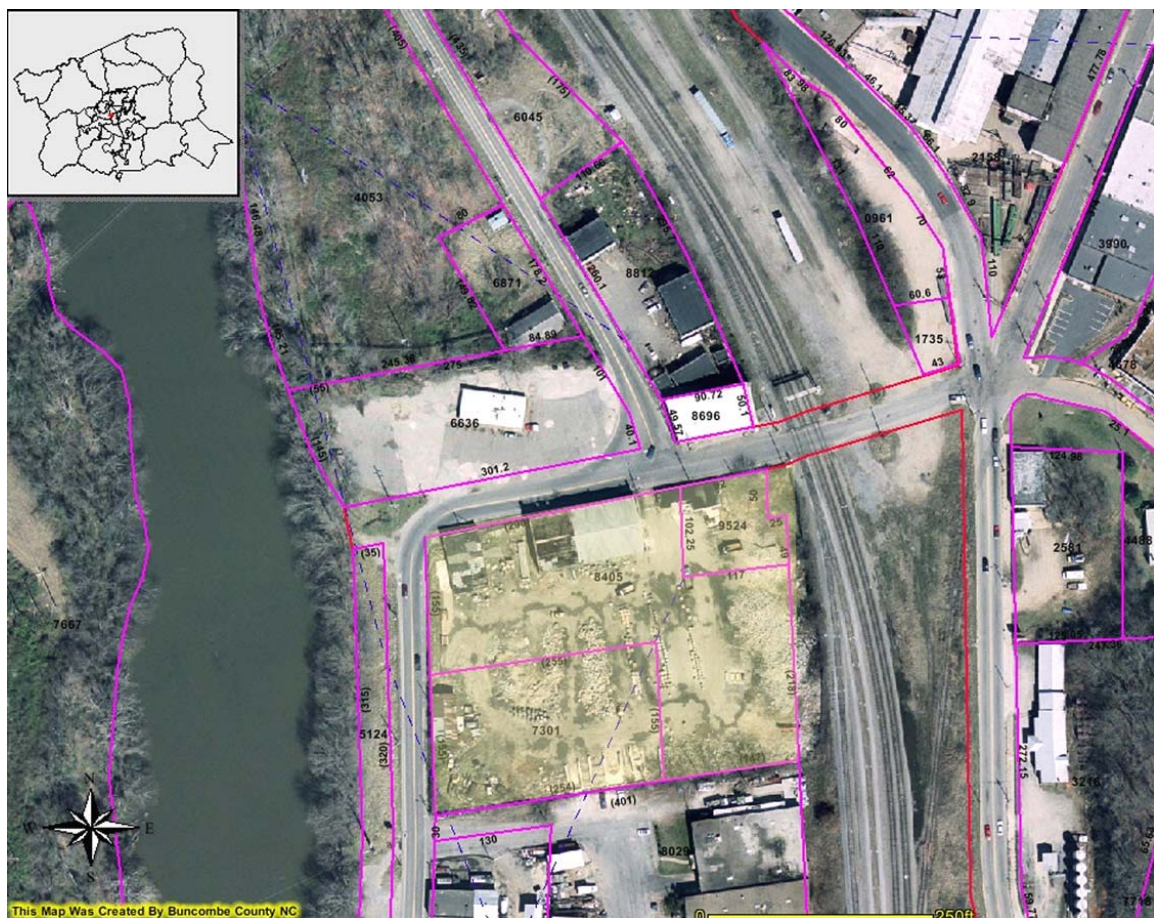


Figure 9: Aerial Photo²⁸

This aerial map of the site illustrates its positioning between the river on the west, and the railroad on the east. The site is highlighted in yellow.

²⁸ www.buncombecounty.org



Figure 10: Flood line diagram

This diagram illustrates the line of the river, the Floodway and the 100-year floodplain. The floodway is where waters are deepest and fastest; these areas should be kept clear to allow flood waters to move downstream. It is possible to build in the 100-year floodplain, but it should be done with caution. Parks and other natural landscaping are recommended to help mediate the flow of rainwater into the river. The master plan study completed in 2004 makes recommendations for how future development should occur, such as extensive park space and lifting buildings up from the ground. Site plans and some building prototypes from this study are presented in Chapter VI.

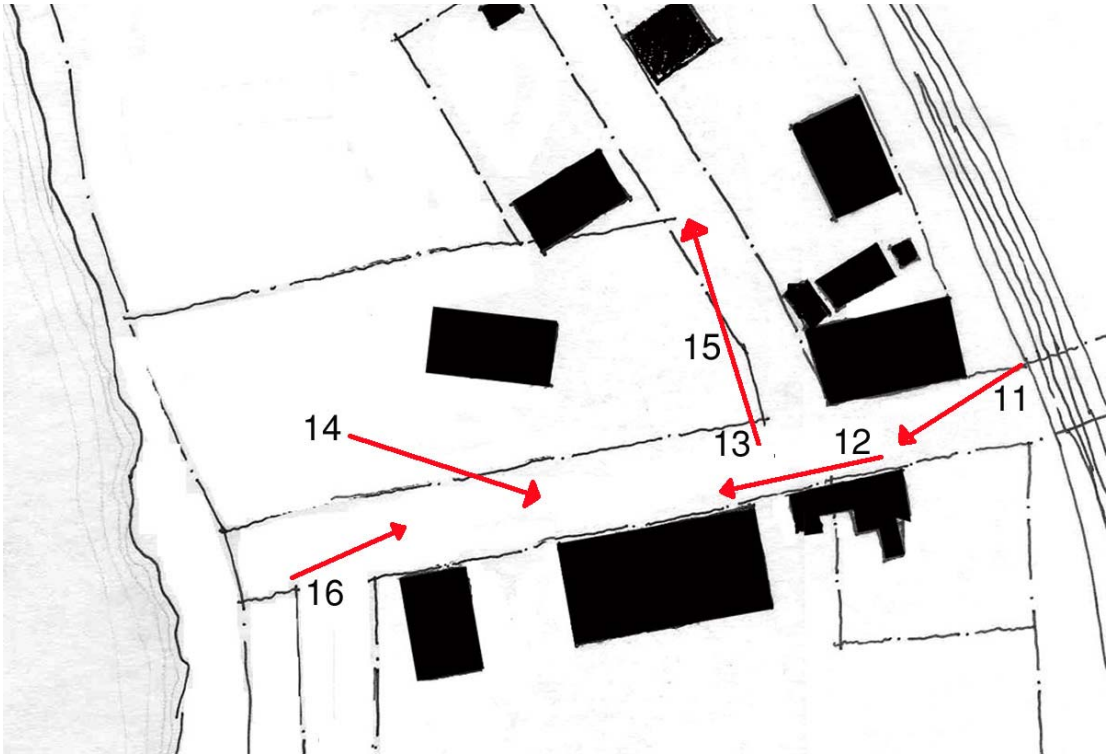


Figure 11: Photo reference plan



Figure 12: Photo
View alongside site from railroad crossing. The old warehouse building is on the left.



Figure 13: View from site looking northwest.
The line of trees in the background defines the riverbank. Lyman Street currently runs to the river here before turning south at the edge of the site to run parallel to the river.



Figure 14: View looking north
Looking directly north from the entry to the site, other warehouse buildings are visible on the right. The white buildings are owned by a local designer who has her studios here.



Figure 15: View of site, looking west.
The poor condition of the existing warehouse building is evident. Warehouse Studios are located in the brick building on the left.



Figure 16: View north on Riverside Drive.
The river is to the left. There has been a natural tendency to build on the east side of the road and allow nature to take control closer to the river.



Figure 17: View looking northeast from Lyman Street.
The site is on the right. Because of poor drainage conditions of the street, this area of the site floods frequently and is overgrown. Curve and Warehouse studios are seen in the distance.



Figure 18: View north on Lyman Street.
The river is lined with dense greenery on the left. Low warehouse and storage facilities characterize Lyman Street south of the thesis site.



Figure 19: Tannery complex

The old tannery buildings are currently occupied by a pet training school and a fitness equipment company. The Riverway Masterplan proposes this area as a center for sports and recreation relating to the river.

Chapter IV: Site Analysis



Figure 20: Aerial view of site²⁹

²⁹ GoogleEarth 2005

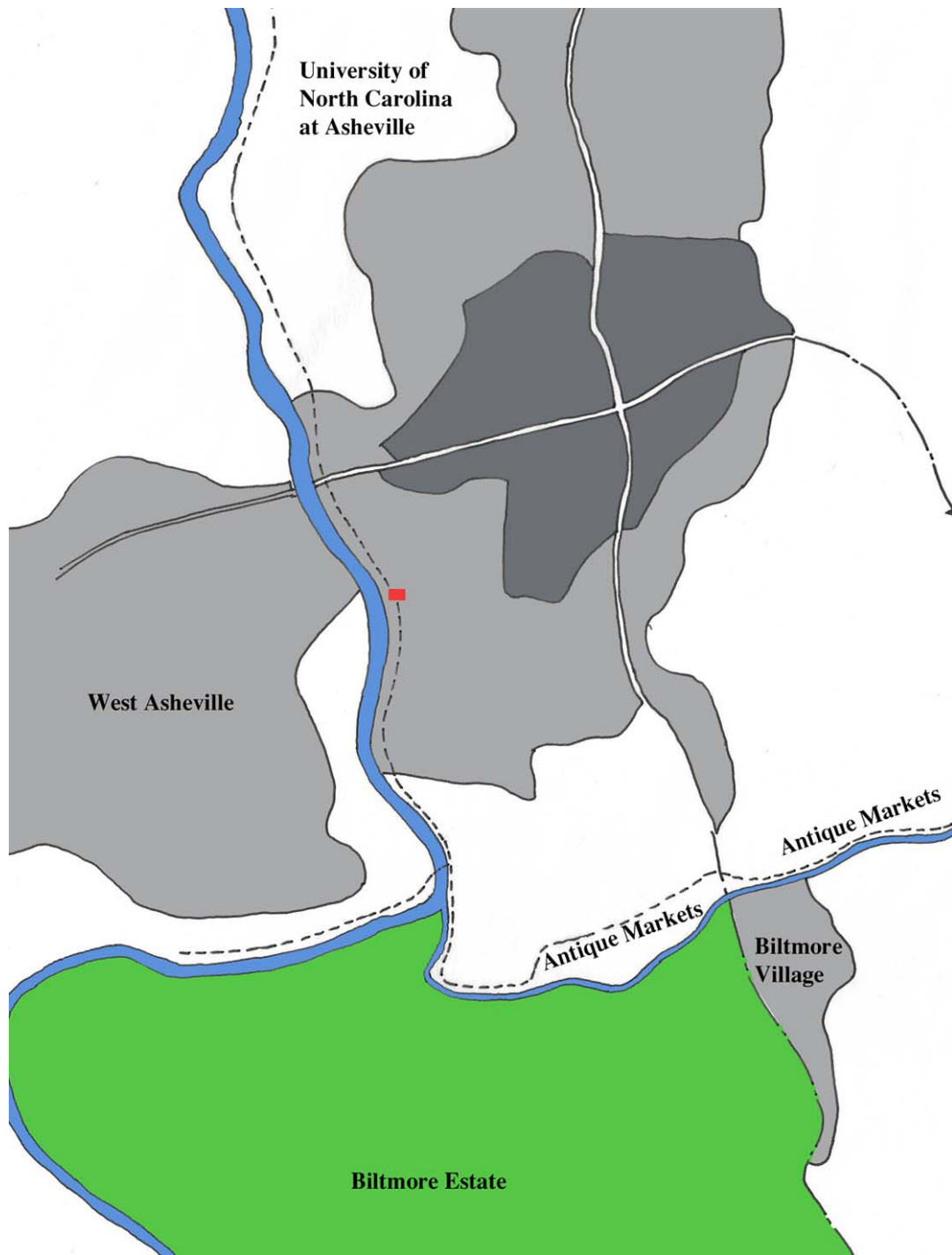


Figure 21: RiverWay connections

The path of the RiverWay makes important connections as it sweeps around the city. Beginning in the north, the path makes a connection from the university to Patton Avenue, which is an important link between West Asheville and downtown. Following the French Broad, it passes through the urban riverfront and the River Arts district; along the Swannanoa River are many antique markets and warehouses. In South Asheville the RiverWay crosses Biltmore Avenue which links Biltmore Village, a distinct village of shops dedicated to art and crafts unique to the region, to downtown Asheville, which is spotted with galleries on nearly every block.

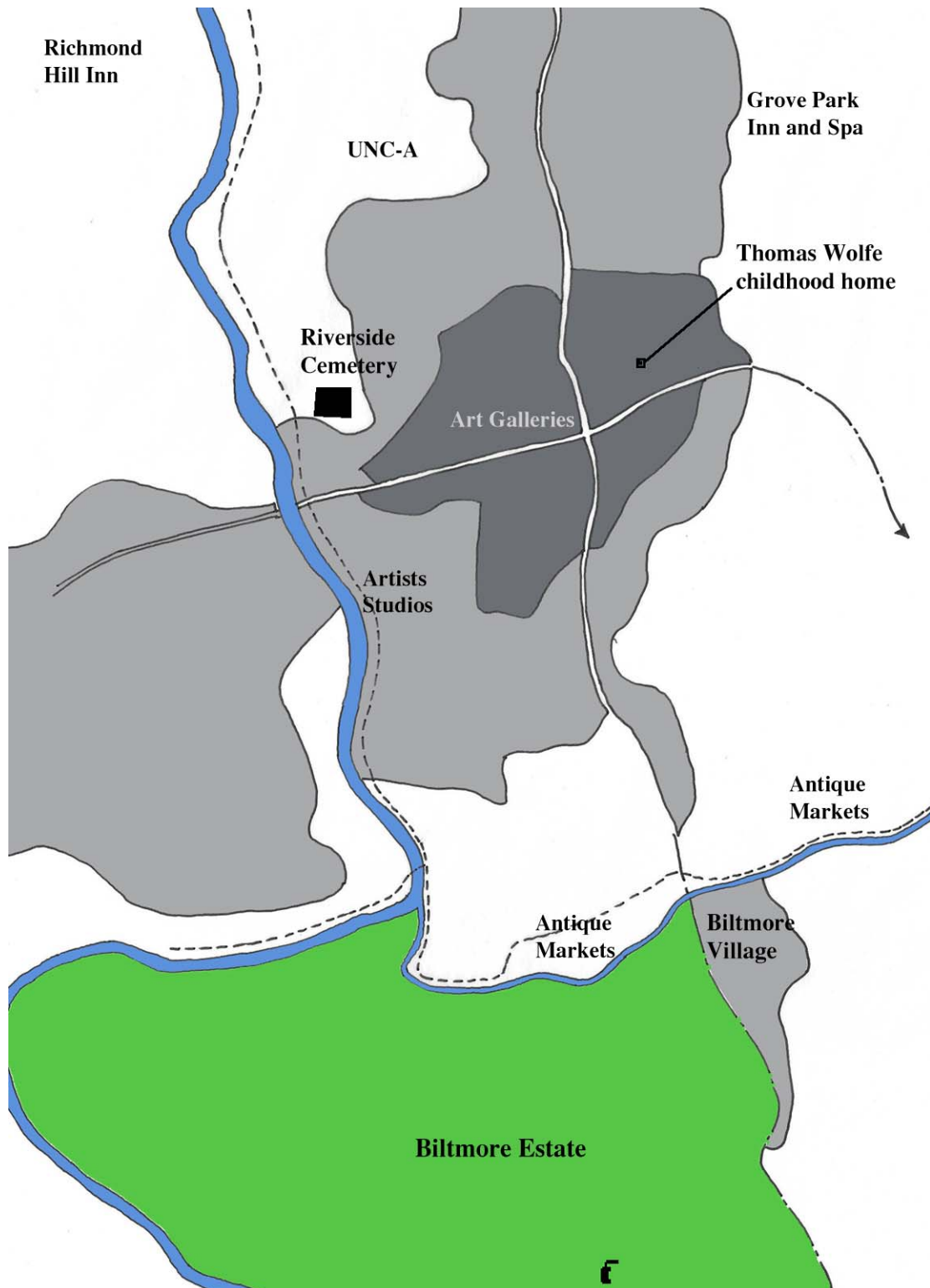


Figure 22: Cultural attractions in Asheville

Tourism is a primary economic resource for the region. In Asheville itself, most of the attractions fall into one of two categories, arts and crafts or historic inns/spas.

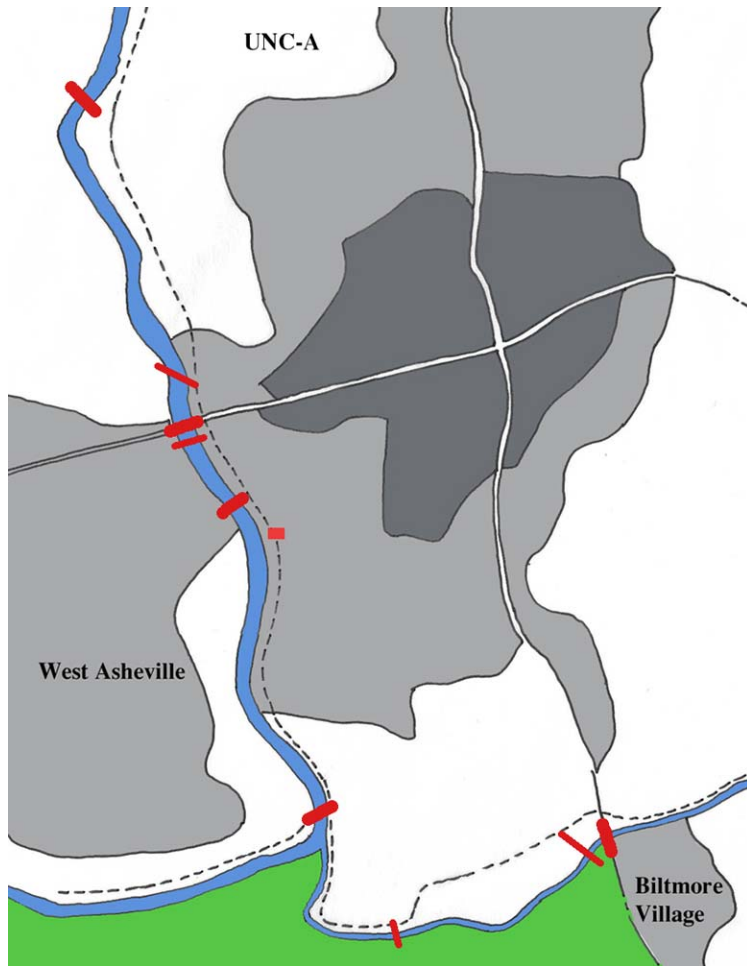


Figure 23: River crossings

There are eight road bridges and one rail bridge that cross the river in the immediate vicinity. None of these are celebrated with distinct architecture or landscaping.

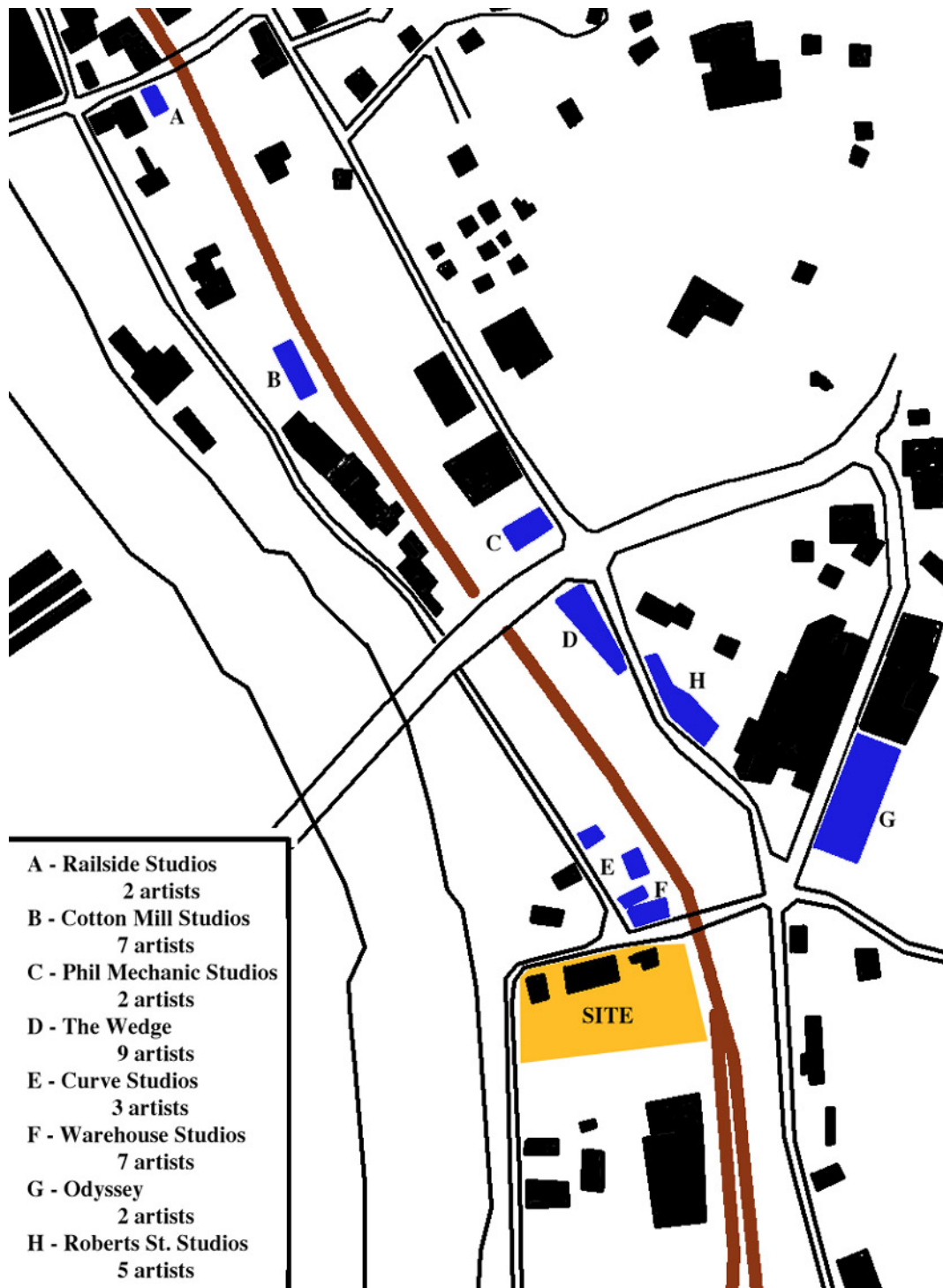


Figure 24: Locations of artist studios near site

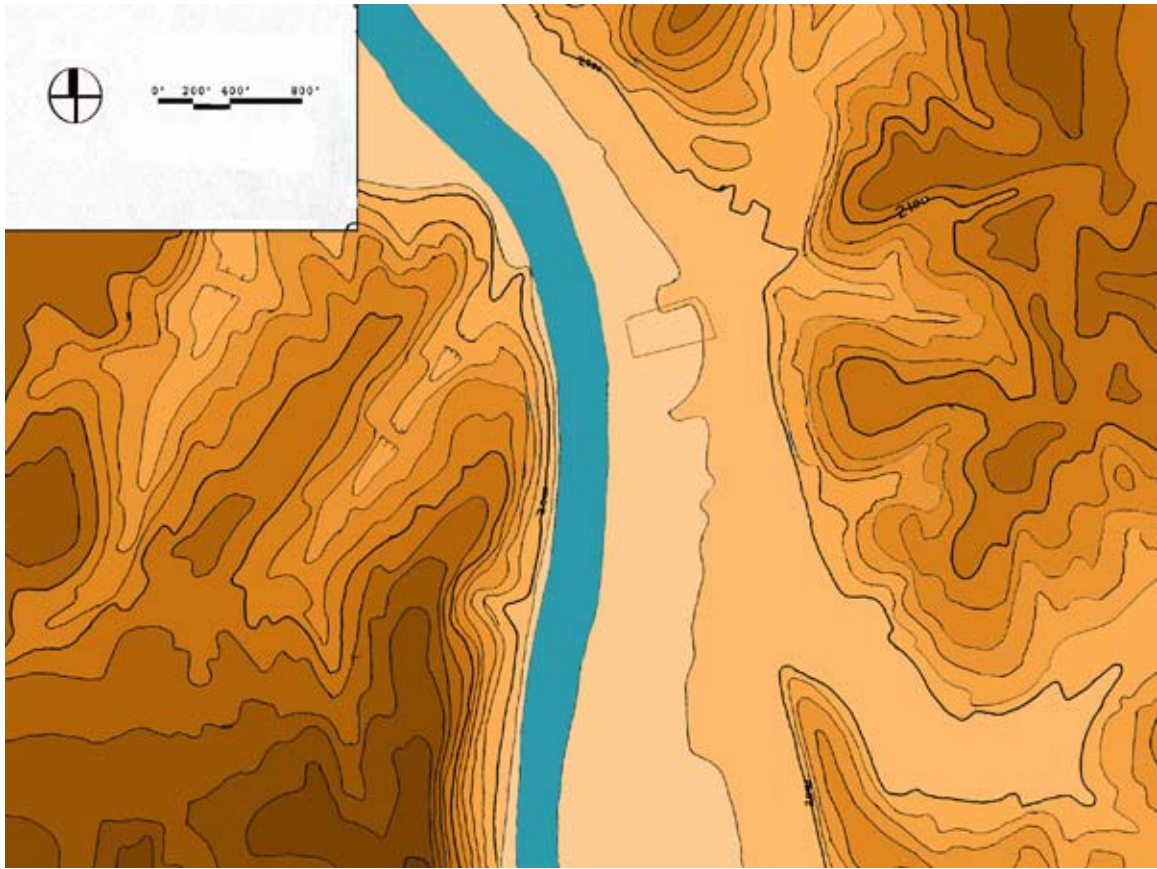


Figure 25: Topography Diagram

This diagram illustrates the flat plain surrounding the site and the steep slope on the west riverbank.



Figure 26: Figure Ground

This diagram illustrates the location between the river and the rail tracks. The buildings on Riverside Drive are working artist studios, across the street is a small restaurant. There is a lot of undeveloped land in this area.

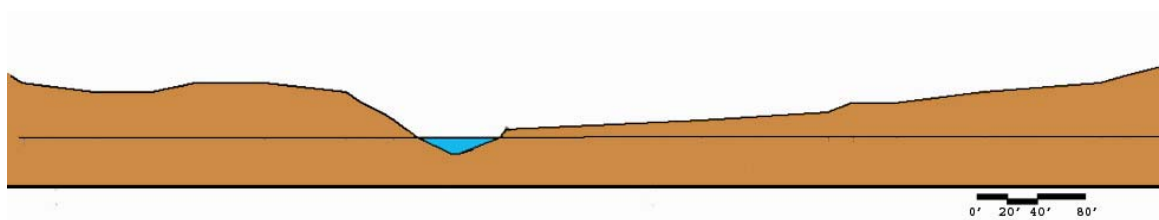


Figure 27: East-west section through site.

This section illustrates that the site is essentially flat. A steep slope on the western bank means that this flat area in a 100-year flood plain.

Climate Data³⁰

Wind	NNW 6-10 mph
Frost/Freeze Dates	October 24, April 10
	196 days annually without freeze
Annual Precipitation	51", 10-12" of snowfall
Average Temperature	39° - Winter 75° - Summer 58° - Annual

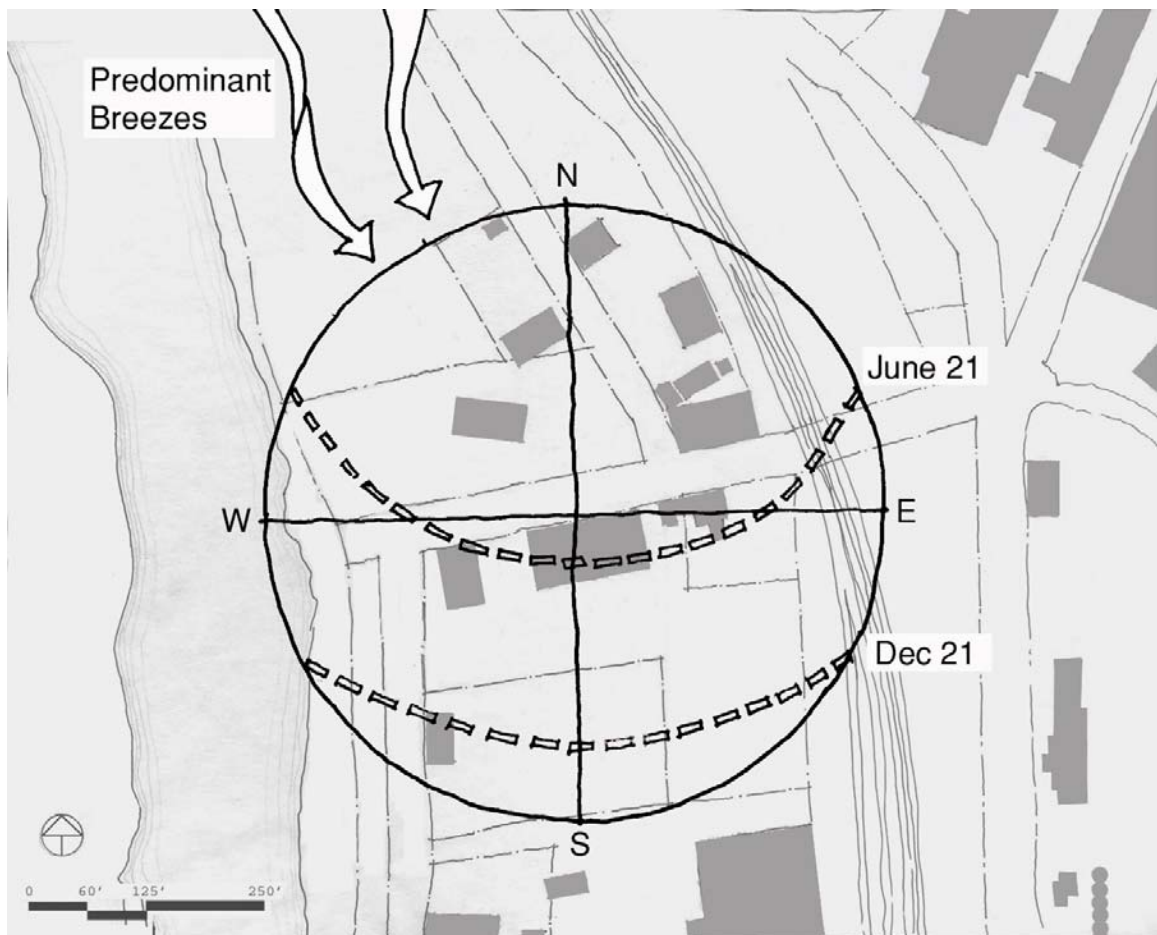


Figure 28: Sun and Wind at 37 degree latitude.

³⁰ National Climatic Data Center



Figure 29: Vegetation

Deciduous trees line the river on both the east and west bank. Other vegetation around the site are smaller trees and some grasses on the east side of Riverside Drive.



Figure 30: Site Access

The site is easily accessed by car or bicycle. There are currently no bus routes that serve the site. The neighborhood has no sidewalks and is not pedestrian-friendly.

Chapter V: Local Vernacular

FRENCH BROAD RIVER AND INDUSTRIAL

In urban areas along the river, the primary building type is industrial. Former factories include furniture making, ice making, and electrical power generation. Other structures in the river district were warehouses that served these factories as well as others in the region, primarily storing fabric or tobacco. The Ice Factory remains, though in very poor condition. It is owned by a local resident who hopes to redevelop it for artists housing and studio space.³¹



Figure 31: Photo of Warehouse Studios

Brick warehouse buildings like this one are common in the river district.

³¹ Torno



Figure 32: Photo of Warehouse on site

This warehouse building, located on the thesis site, was once used by the Carolina Coal Company.



Figure 33:Brick factory building with smokestack.



Figure 34: Factory building

This structure sits along the river in Woodfin, about four miles north of the site



Figure 35: Factory building in Woodfin.

Recently renovated, this factory has a unique profile.

CITY OF ASHEVILLE

The architecture of downtown Asheville is eclectic. Much of the fabric consists of two to four story structures built between 1900 and 1930. Most of these have been renovated within the last fifteen years. Some recent infill projects have a distinctly modern style.



Figure 36: Typical character of the Battery Park neighborhood.

Battery Park is a collection of 20th Century brick buildings; the larger ones were once hotels. Colorful Wall Street (bottom) is a popular location for restaurants and unique shops. New buildings on Wall Street are quite modern in contrast to the 3 storey buildings from the 1900s and 1920s, seen on the left. Wall Street is named so because it serves as a retaining wall for what was once Battery Hill. In the image above, the streets one block over to the left and right are a full storey lower and higher, respectively.



Figure 37: Grove Arcade

The Grove Arcade was the last venture of E.W. Grove. It was planned to serve as a public market. The design included a 20-storey office tower above this base. The building was renovated and re-opened to the public in 2003 after decades of use as government offices. The ground level is restored as a sort of craft and cultural market; the upper floors contain offices and housing.



Figure 38: First Baptist Church

While there are several churches in downtown Asheville, this one designed by Douglas Ellington is a landmark because of its unique tiled roof.



Figure 39: County Courthouse and City Building

This view of City-County Plaza is a classic one of the city. The City Building, on the right, was designed by Douglas Ellington. The original plans called for twin buildings, but the administration decided to build the County Courthouse in a more traditional style. Ellington used the rounded form of the roof here and at First Baptist Church to reflect the silhouette of the mountains beyond, and contrasted the Blue Ridge with red and pink tiles.

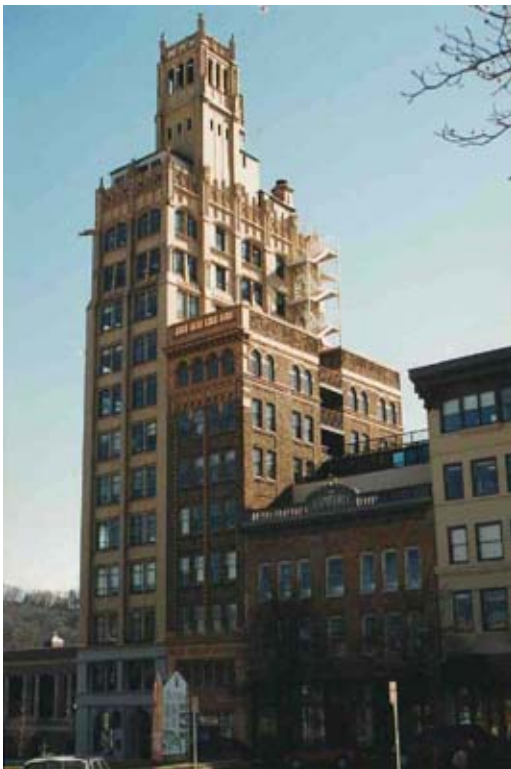


Figure 40: South Pack Square

Pack Square is the primary public plaza in the city. This view looking south includes the Jackson building on the left, Asheville's first skyscraper, and the Commerce Building, the first to use reinforced concrete.

Chapter VI: Precedents

SITE STRATEGY AND MATERIALS

RIVER AND ROWING MUSEUM

Henley-on-Thames, Oxfordshire, England
David Chipperfield, Architect

Like the structure proposed in thesis, the River and Rowing museum sits in the floodplain of a river. The museum documents the history of the sport of rowing, and the river. Its form and materials recall the local vernacular, specifically traditional wooden barns of Oxfordshire and boathouses along the river.

The structure is lifted above the ground on concrete piers to allow for flooding of the river. The rhythm set up by these piers is continued in the structure above, and the transparent nature of the lower level allows this pattern to be read from afar. These two elements combined make the structure appear to float above the water. The upper floor is very solid, clad in oak. Through form and detailing, Chipperfield's project responds to the history of the area while presenting a clearly modern style.³²

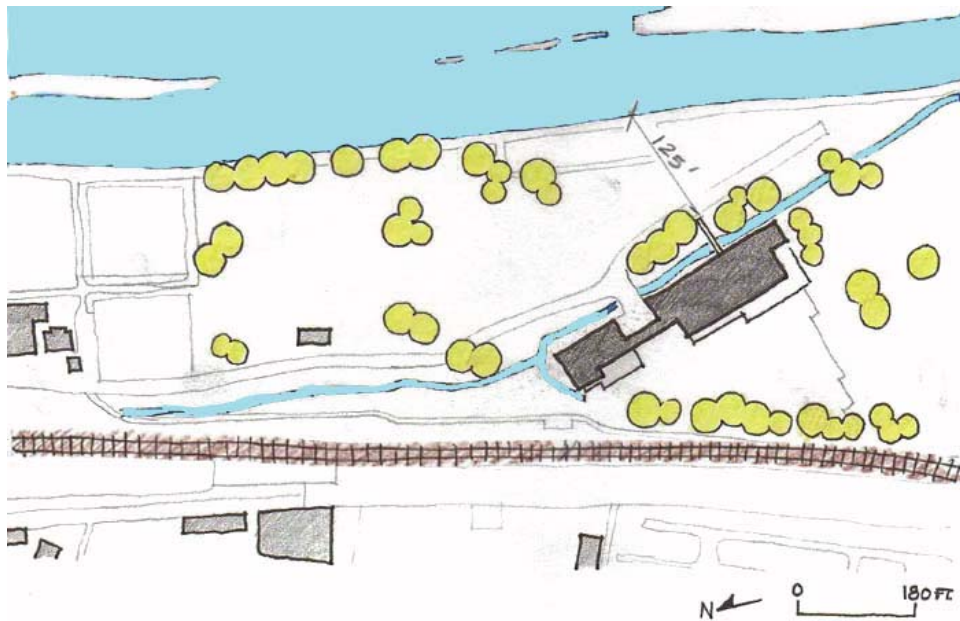


Figure 41: Site Plan



Figure 42: Photo³²

Museum entry from parking. The structural grid is evident on the first level. The transparency of the ground level makes the enclosed upper galleries appear to float.

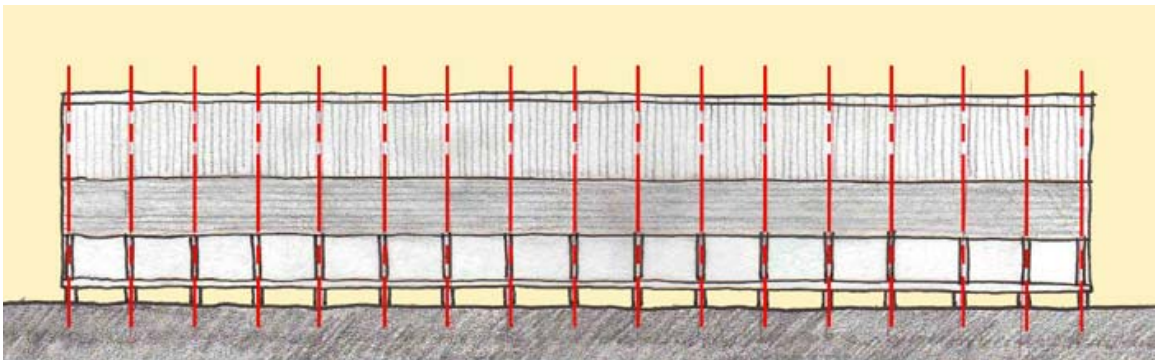


Figure 43: Facade diagram

This diagram illustrates that the rhythm set up by the flood piers is read vertically in the façade.

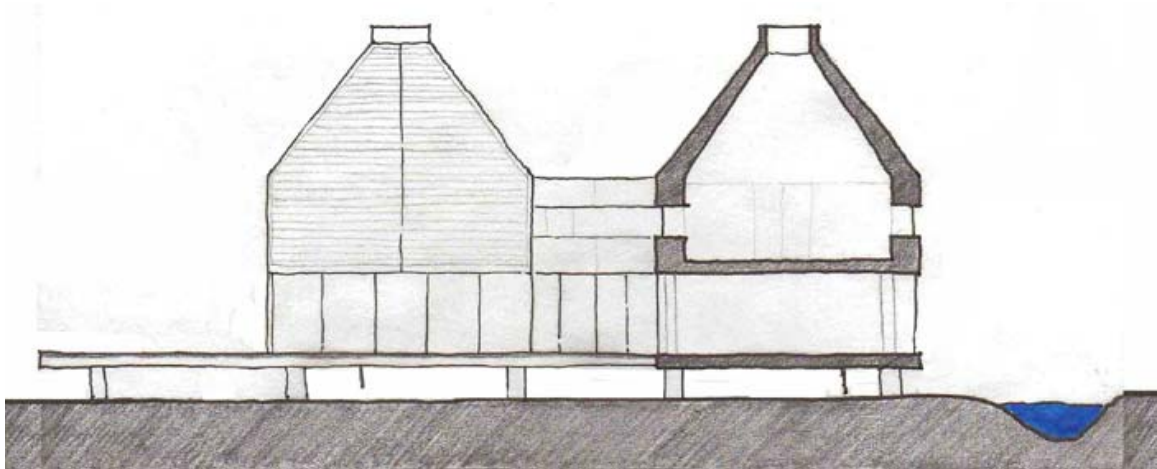


Figure 44: Section

The section illustrates how the floor level is raised above the floodplain.



Figure 45: Photo³²

View along East side of the museum. A small stream runs close to the building here, almost like a moat.

³² Ivy 116-121

INDUSTRIAL REDEVELOPMENT

CLIPPER MILL

Baltimore, MD

Cho Benn Holback and Associates [Architect]

Struever Brothers, Eccles, and Rouse, Inc [Developer]

Clipper Mill was once the largest foundry and machine shop of its kind in America. Like the Riverfront in Asheville, this district housed a thriving industry in the late 1800s which has since been abandoned. Struever Bros, Eccles, and Rouse, Inc. are redeveloping this industrial landscape into a mixed-use complex with apartments, condominiums, galleries, and other small businesses. Of particular interest is the design of the actual mill building. The memory of the structure is preserved in the exposed steel roof structure and the large atrium space of the interior. Smaller buildings and additions adjacent to the structure have been destroyed, but their foundations remain and will become an outdoor terrace area, including a fountain and pool.



Figure 46: Construction Photo

View of mill building during construction of new housing. The steel frame of the roof will remain exposed.



Figure 47: Interior view of mill building under construction.



Figure 48: The remains of adjacent structures will become an outdoor terrace.

INDUSTRIAL REDEVELOPMENT AND MATERIALITY

SIBELIUS HALL

Lahti, Finland

Architects: Kimmo Lintula and Hannu Tikka

This project for a new opera house incorporates an old brick factory building. The more cellular elements of the program are located in the load-bearing masonry building and a new glass and wood structure house the large performance hall. There is a clear contrast between the old and new structures. Also important to the design of this project was the showcasing of materials, specifically wood. The connecting piece between the two structures is a large public foyer referred to as Forest Hall because of the large and branching columns that characterize the space.³³

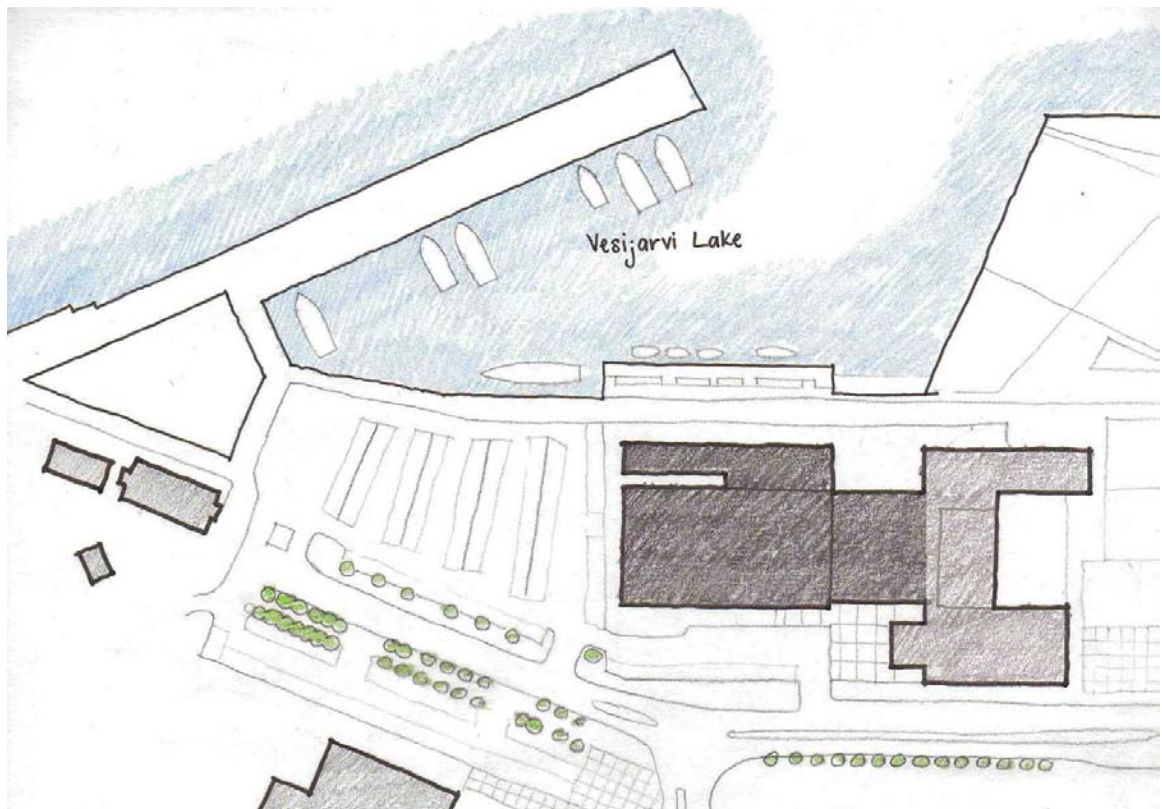


Figure 49: Sibelius Hall site plan

³³ MacKeith 124,125

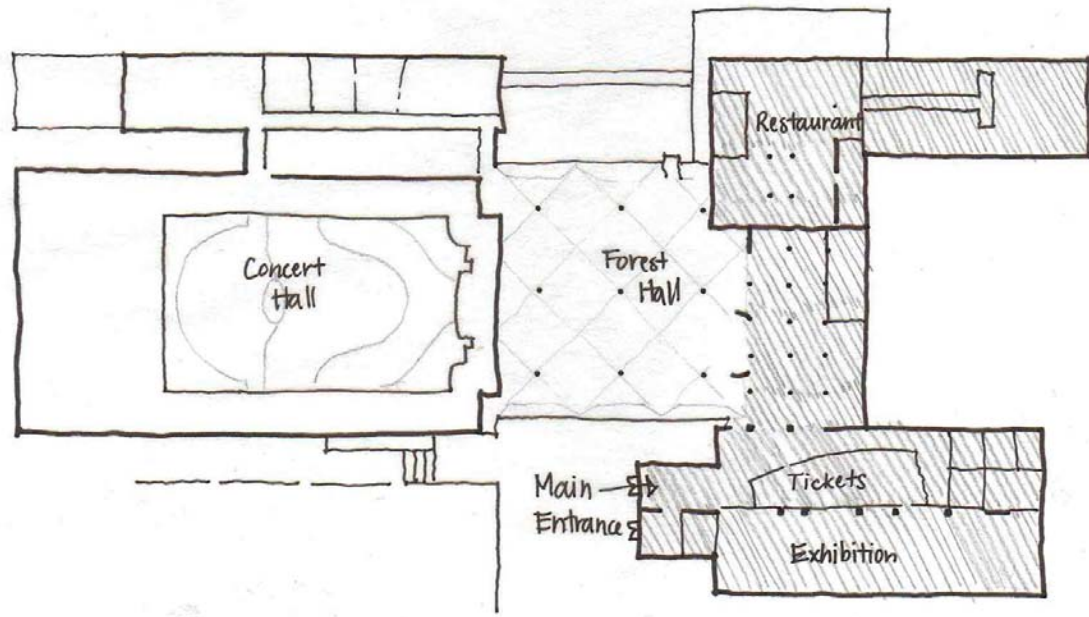


Figure 50: Sibelius Hall plan

The plan illustrates the more divided nature of the historic building, which is shaded in this drawing.



Figure 51: Photo of Entry³⁴

The new glass and wood structure is in stark contrast to the heavy brick massing of the old factory. The connecting piece, Forest Hall, is very open and transparent.

³⁴ Arkkitehti 46

SUSTAINABILITY

CHESAPEAKE BAY FOUNDATION

Annapolis, Maryland

SmithGroup, Architects

The first project to receive a Platinum LEED rating from the U.S. Green Building Council, the Chesapeake Bay Foundation is a model of sustainability. The building is sited on the footprint of the pool and pool house of the old Bay Ridge Inn. The site minimizes impervious surfaces and uses native landscaping. The siting and orientation of the building takes advantage of southern sun exposure and prevailing winds for natural ventilation. Additionally, the project uses geothermal wells for climate control and photovoltaic panels for hot water and electricity. Lighting and climate control systems are monitored electronically for maximum efficiency. An open office plan enables natural lighting and ventilation to reach deep into the building.³⁵



Figure 52: CBF South Elevation³⁶

The south facade of the building has a louvered shading system for extensive glazing that overlooks the Chesapeake Bay.

³⁵ www.cbf.org

³⁶ Architectural Record



Figure 53: CBF Entry

Three large rainwater cisterns are visible from the parking area. Each holds 12,000 gallons of water which is filtered and treated to be used for the sprinkler system, hand washing, mop sinks, and laundry.³⁷



Figure 54: CBF solar panels

Photovoltaic panels are located on the south façade as well as the roof. While these arrays generate only two percent of the building's energy load, CBF included them in the design as a teaching tool.³⁸

The envelope of the building is constructed of structurally insulated panels, SIPs, which have a very high insulation value. The exterior is wrapped in galvanized steel, which requires no additional finishing, and therefore is more readily recyclable later. The

³⁷ McKee 125

³⁸ McKee 124

interior has a minimum of traditional finishes as well. The SIPs are left unfinished except for trim pieces at the seams. The flooring is a combination of bamboo and cork beeswax, both natural materials and easily renewable resources.³⁹

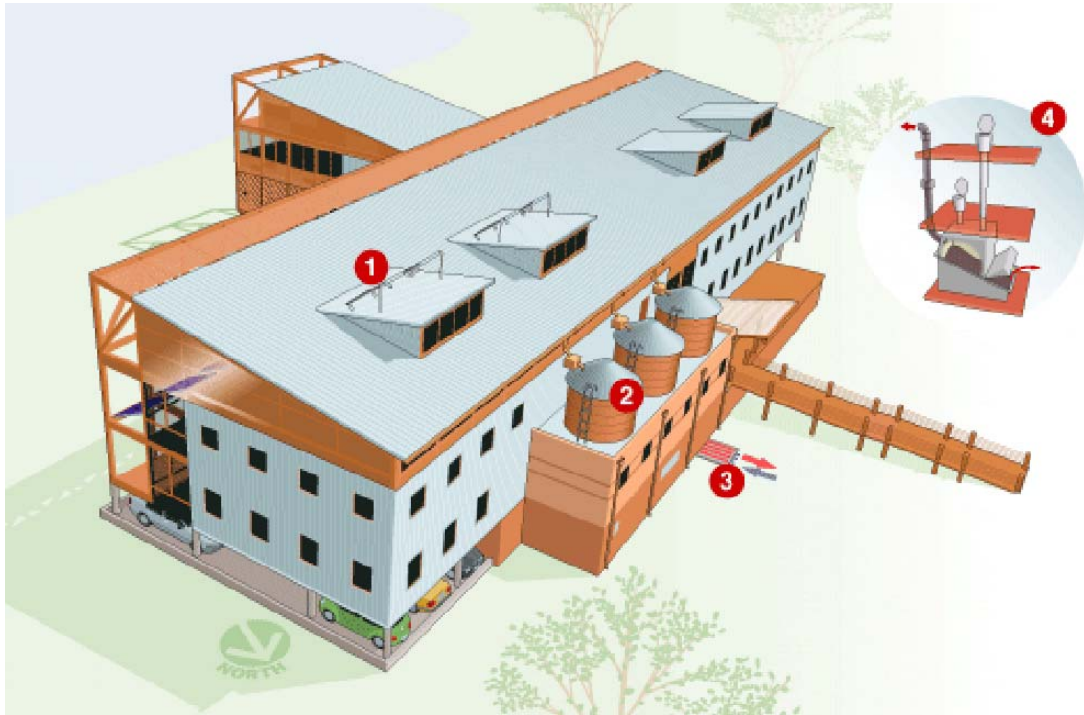


Figure 55: CBF Diagram

- 1 – Solar water heaters**
- 2 – Rainwater cisterns**
- 3 – Geothermal heat pump**
- 4 – Flush-free composting toilets**

³⁹ McKee 124,125

SECOND REGIONAL VOCATIONAL SCHOOL Frejus, France

Norman Foster and Partners, 1991

This vocational school in the Cote d'Azur region of France relies almost entirely on natural systems for cooling and ventilation. While energy- and resource-intensive materials are used, there is a sensitivity to site and climate. The building sits on a linear site and is oriented to maximize southern exposure and access to views. Concrete was chosen to provide thermal mass and because there was a local expertise in the fabrication of high-quality concrete structures. The building is ventilated using the stack effect. Classrooms are arranged around an interior 'street' which is a double height space that provides ventilation and daylight to the interior of the building. High ceilings and operable, adjustable windows on both internal and external facades maximize air circulation. A remote-controlled louver system provides shading on the southern façade of the buildings.⁴⁰

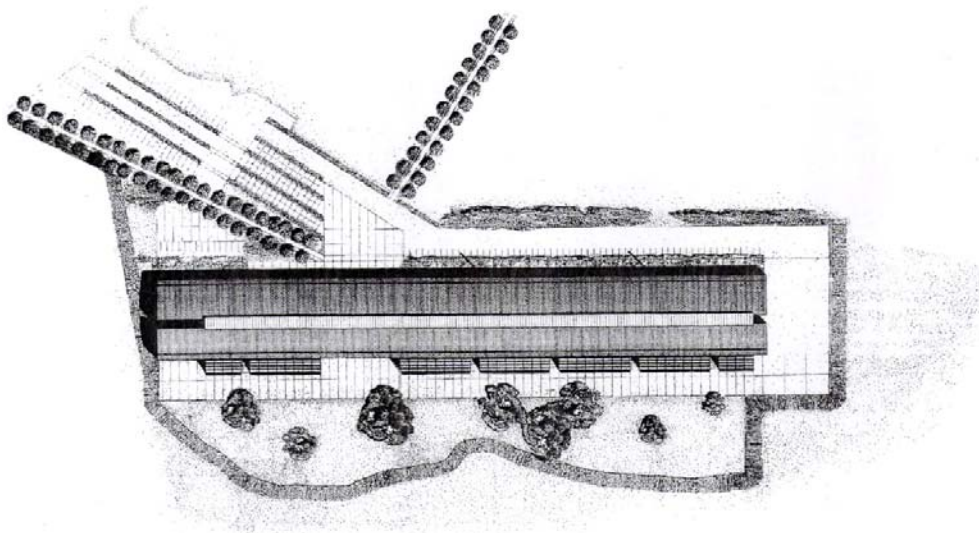


Figure 56: Vocational School site plan

⁴⁰ Steele, 175-183

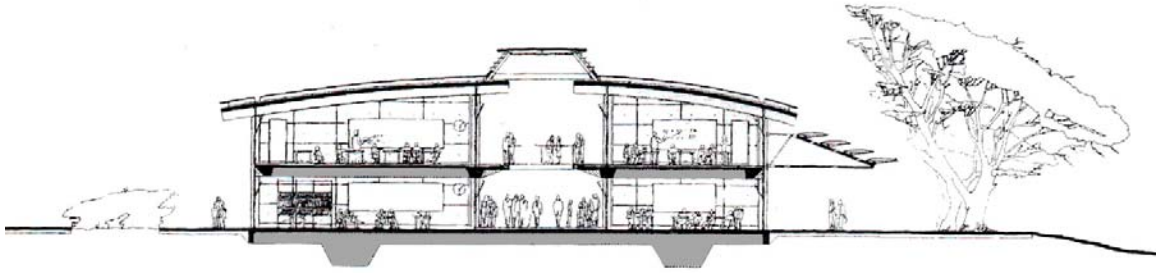


Figure 57: Vocational School - building section

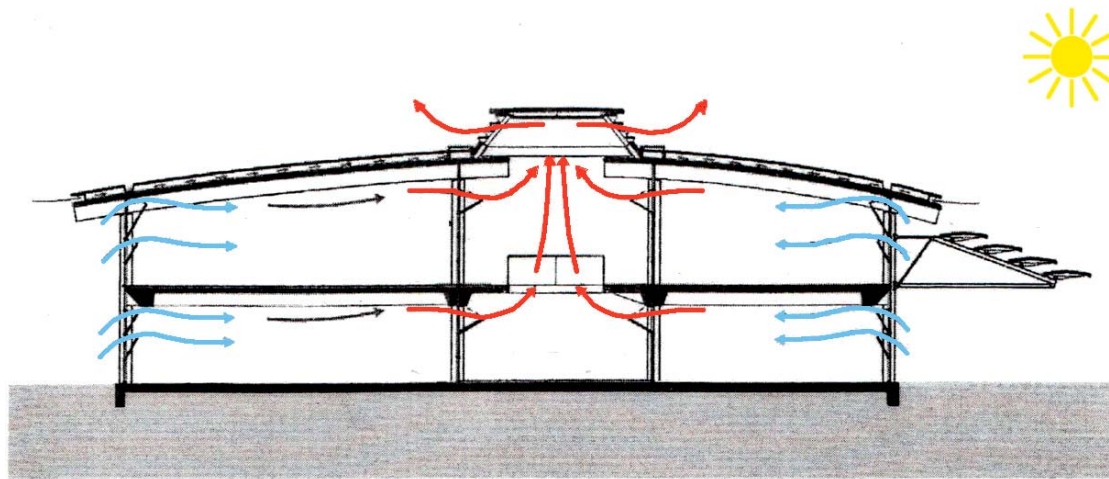


Figure 58: Ventilation Diagram

This diagrammatic section illustrates how operable windows and the double height corridor work together to provide natural ventilation through classroom spaces. Hot air rises in the high ceilinged rooms and moves upward and out vents in the roof canopy. Solar shading on the south side prevents heat gain from south glazing.

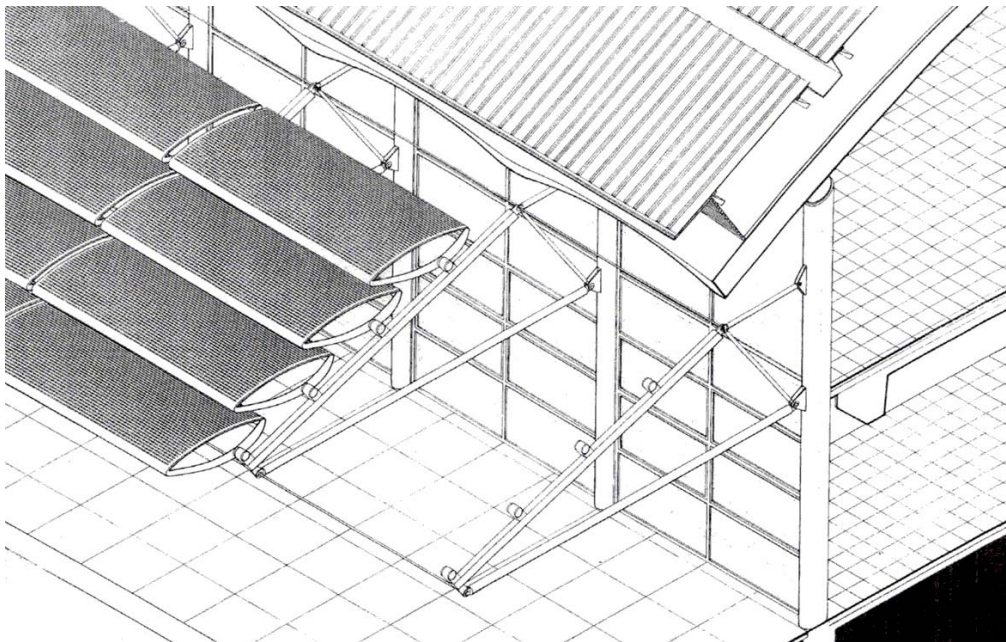


Figure 59: Detail of shading device

PROGRAM

ROCKVILLE ARTS CENTER
Rockville, Maryland

D'Agostino, Izzo, Quirk Architects, Inc.

Rockville Arts Place is primarily a community arts education center. The center offers over 200 classes and workshops each year.⁴¹ Artists work on-site in dedicated studios for ceramics, jewelry, photography, fibers, wood, glass, painting, and drawing. This precedent is useful to analyze overall square footage and the division of space among program elements.



Figure 60: RAC Plans⁴²

An analysis of the main floor plans reveals the relative sizes of each piece of the program. Most of the program consists of working studios and classrooms, each make up 30% of the total square footage. Dedicated exhibition space is about 17%, service spaces 10%, and administration only 8%. The ground floor has approximately 10,000 sq. ft. of service and storage space.

⁴¹ www.rockvilleartsplace.com

⁴² D'Agostino, Izzo, Quirk Architects, Inc.

TORPEDO FACTORY ART CENTER Alexandria, Virginia

Located on the Potomac River in Alexandria, this art center occupies a renovated torpedo factory used in World War II. The Torpedo Factory attracts 800,000 visitors annually. There are 84 artists' studios, five cooperative galleries, and an archaeological museum located within the building. The Torpedo Factory Art Center houses more than 165 artists who produce artwork in a wide variety of mediums including painting, pottery, photography, jewelry, stained glass, fibers, printmaking, and sculpture. Visitors are invited to enter the studios and watch the artists at work.⁴³

The building has an extremely large footprint and serves a much larger community than the subject of this thesis. It is useful however, to look at how the studios are arranged within the renovated structure, and the size and number of gallery spaces compared to studio spaces.



⁴³ www.torpedofactory.org

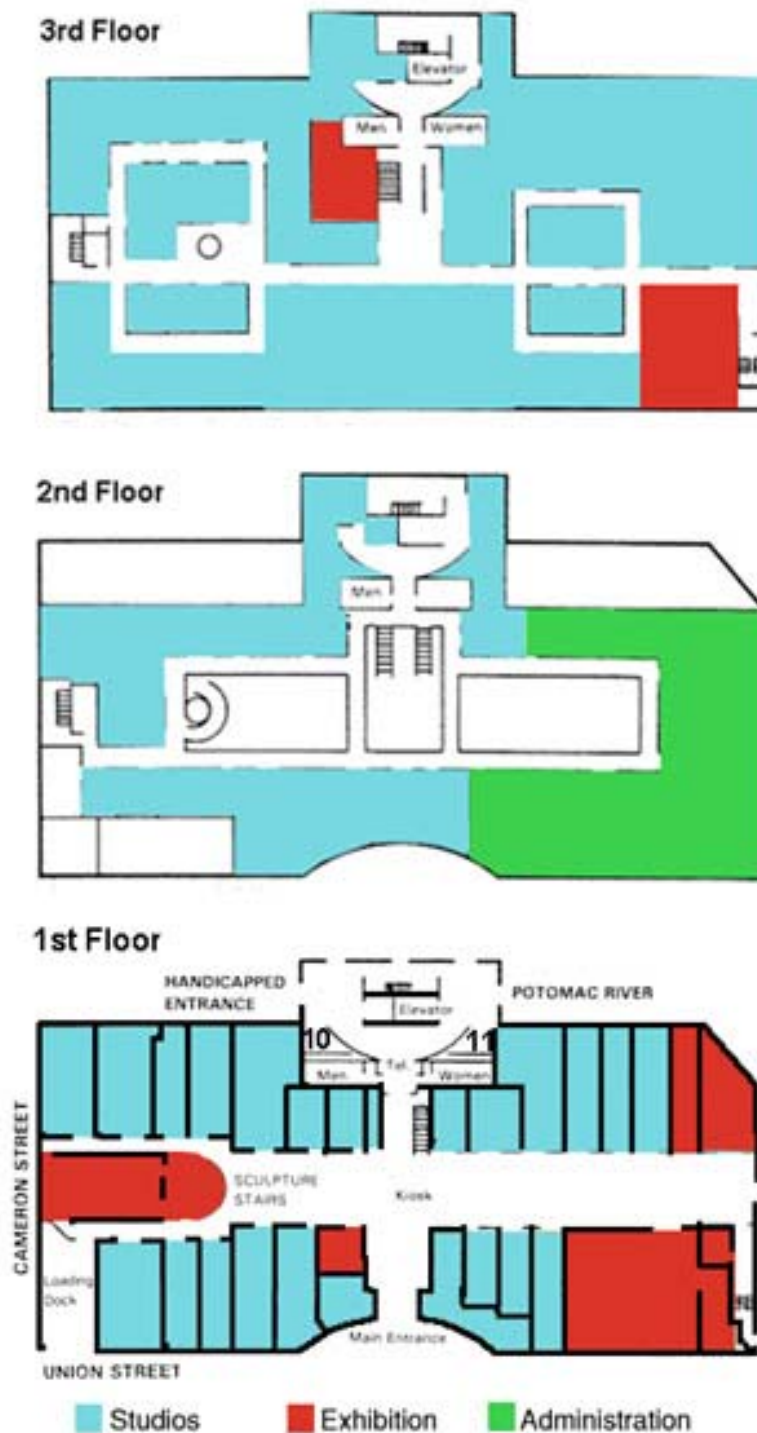


Figure 61: Torpedo Factory Plans

The studios are arranged much like offices around major circulation and open spaces in the center. There are only 5 galleries in the building. Galleries are interspersed among the studios and are not necessarily large. The galleries are arranged and divided according to the types of media used.

ENVIRONMENTAL EDUCATION CENTER

Liberty State Park, Jersey City, New Jersey

Michael Graves, AIA

Oriented with views to the southern tip of Manhattan, this "wildlife interpretive center" is primarily used as an educational center addressing the indigenous wildlife and the environmental context of the park surrounding it. A path system loops through the landscape, taking visitors past descriptive pavilions and the waterfront before returning to the building. The program includes space for exhibition, lectures, and conferences.⁴⁴

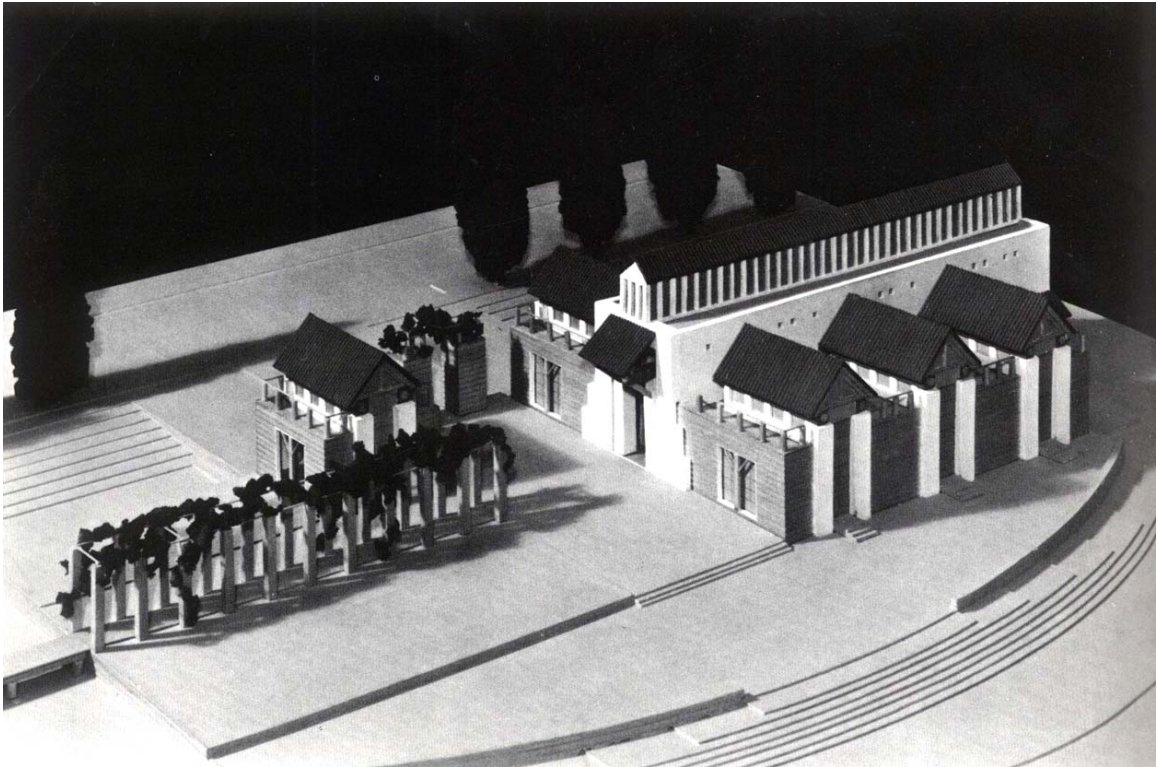


Figure 62: Model⁴⁵

⁴⁴ GA Document 42

⁴⁵ *Space Design* 48

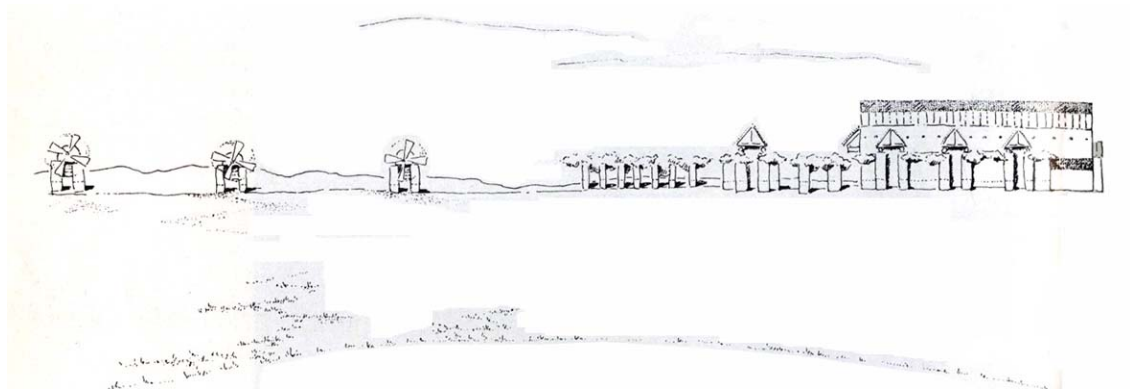


Figure 63: Sketch
A series of descriptive pavilions are located in the landscape.

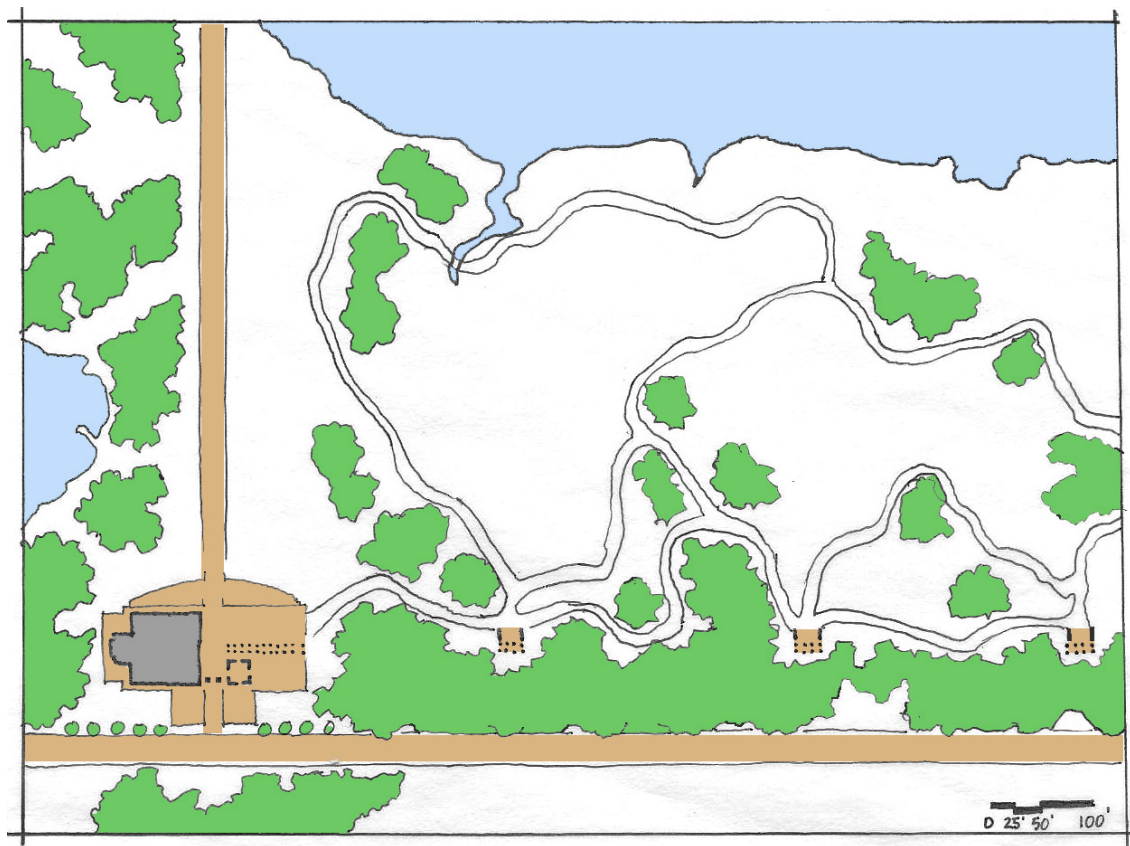


Figure 64: Site plan

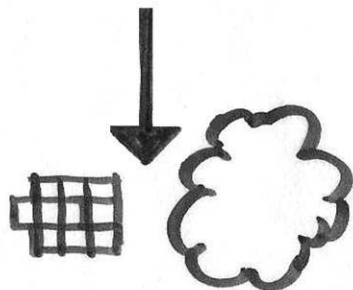


Figure 65: Site diagram

When approaching from the access road, one experiences enclosed exhibition spaces on one side, and natural outdoor exhibition on the other.

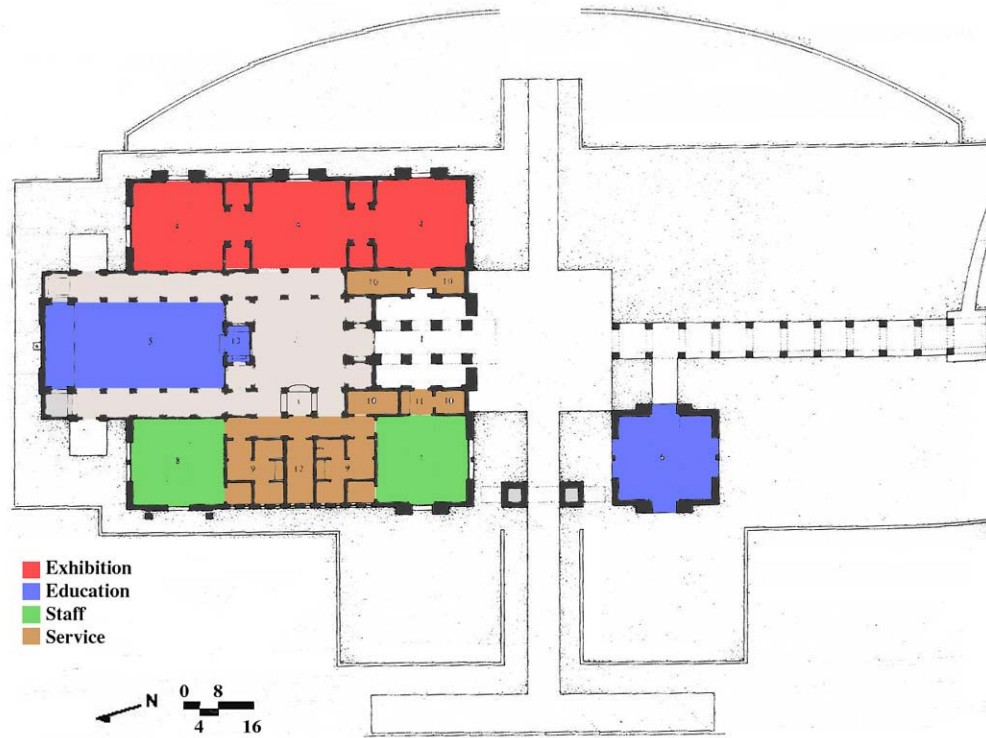


Figure 66: Floor plan and programming

Exhibition galleries, an auditorium, staff and service areas are grouped around a central entrance hall.

MINNESOTA VALLEY WILDLIFE REFUGE Minnesota

Ellerbe Beckett, AIA

The Minnesota Valley National Wildlife Refuge follows the Minnesota River for 20 miles until it meets the Mississippi River. This 8,000 acre greenbelt is one of only 4 urban wildlife preserves in the U. S. The program is essentially a nature center, including exhibition and educational spaces as well as offices for a 27-member staff which run the refuge. Parking is located away from the 35,000 square foot building to encourage use of the elaborate trail system designed on the site.⁴⁶ This center includes many of the same elements as the River Arts center in Asheville, and is also useful because it is a nature center situated in a more urban environment.



Figure 67: Distant view of MN Wildlife Refuge

The center is arranged in a series of long, low wings; the forms of which recall the character of rural Minnesota buildings. Glazing placement screens views of nearby suburban sprawl and frames panoramas of the landscape.

⁴⁶ Nesmith 44, 45

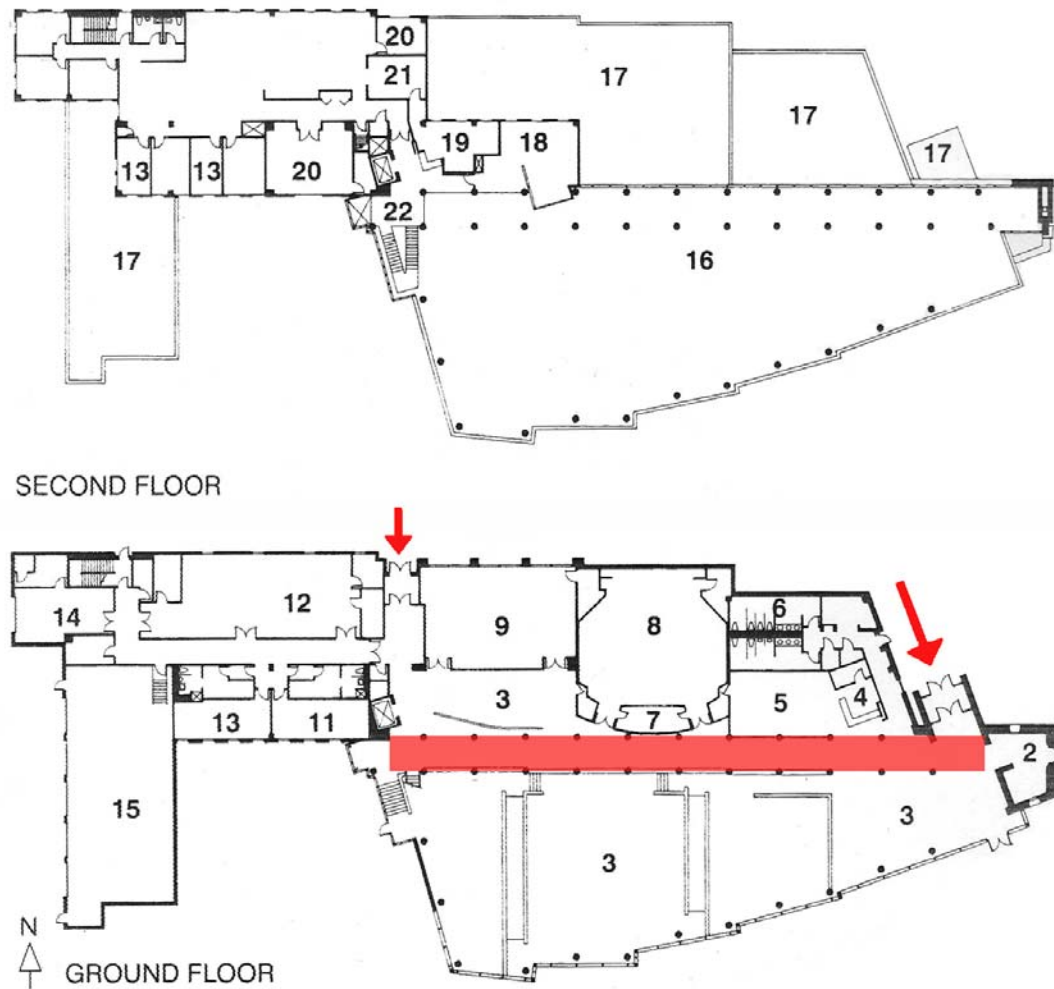


Figure 68: MN Wildlife Refuge plans⁴⁷

The program elements are organized along an east-west circulation spine.

- | | |
|---------------------|---------------------------|
| 1 MAIN ENTRANCE | 12 STORAGE |
| 2 HEARTH ROOM | 13 OFFICE |
| 3 EXHIBIT AREA | 14 RECEIVING |
| 4 INFORMATION | 15 MAINTENANCE GARAGE |
| 5 BOOKSTORE | 16 OPEN TO EXHIBITS BELOW |
| 6 REST ROOM | 17 ROOF |
| 7 PROJECTION ROOM | 18 RESOURCE LIBRARY |
| 8 AUDITORIUM | 19 RECEPTION |
| 9 CLASSROOMS | 20 CONFERENCE ROOM |
| 10 STAFF ENTRANCE | 21 WORKROOM |
| 11 STAFF BREAK ROOM | 22 WAITING AREA |

The exhibition space is organized by freestanding and flexible displays for both permanent and changing exhibits. Electrical and mechanical systems are concealed within the floor.

⁴⁷ Nesmith 48



Figure 69: Program elements

The public zones of exhibition and educational spaces are arranged along the main circulation spine. The administrative and service spaces are located in an adjacent wing.

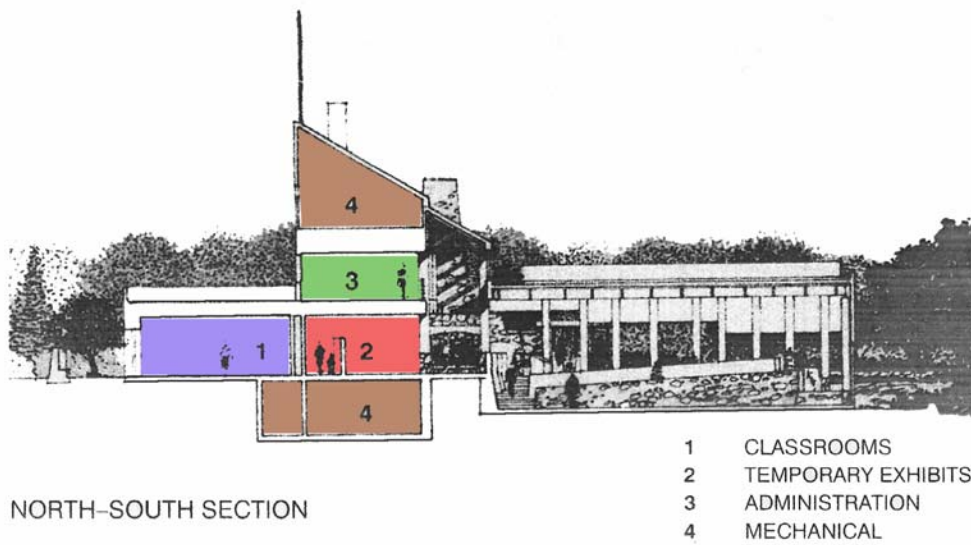


Figure 70: Section

The public spaces are located on the ground level. Service elements bookend the section.

Chapter VII: Prior Architectural and Planning Studies

The city of Asheville has adopted a "RiverWay" Master Plan done by Urban Design Associates (Pittsburgh) in 2004. This plan looks at smart growth issues for development of 16 linear miles along the eastern bank of the French Broad River and the northern bank of the Swannanoa River. "By combining and improving existing roadways with a common design palette, confused and often contorted riverfront streets will be reconceived as a graceful new road of singular distinction. In addition to the roadway, the RiverWay will include a continuous trail system, new passive and active recreation areas, and urban sections that tie into historic town centers." The study programs land use for five distinct districts along the rivers. The site of this thesis falls in District II: River Arts District.⁴⁸

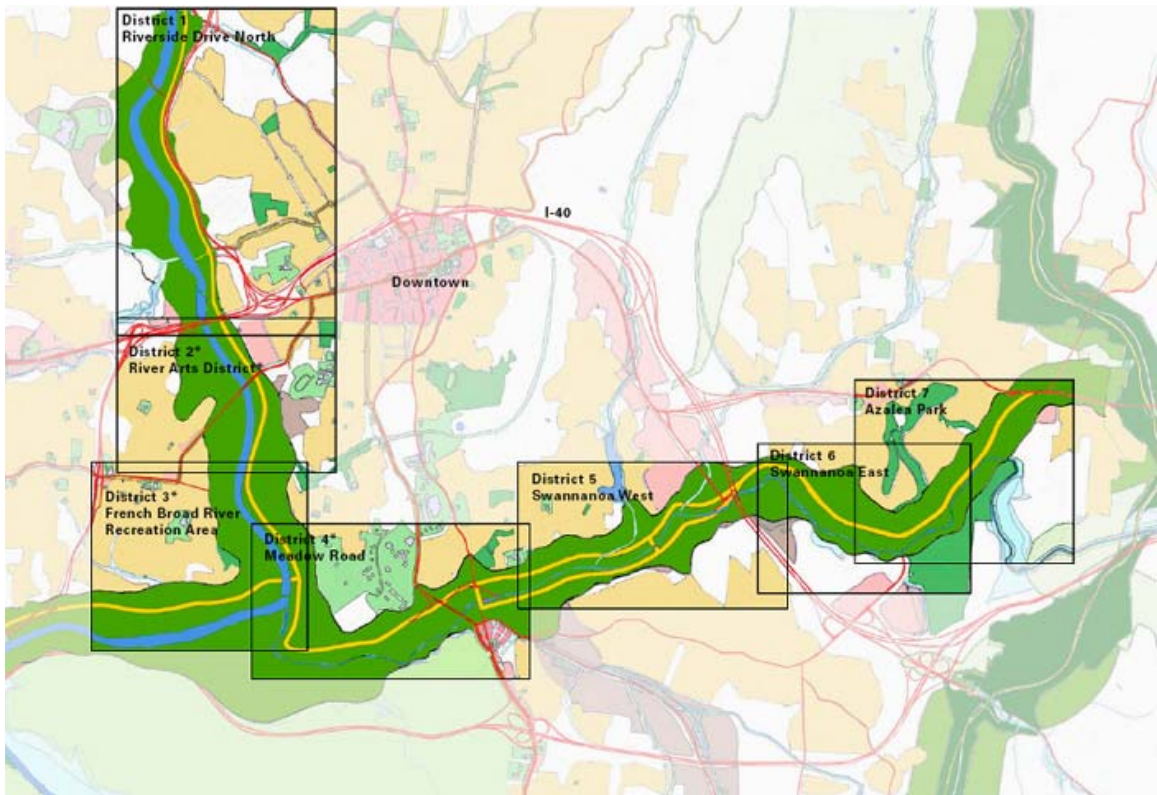


Figure 71: Riverway Master Plan⁴⁸

The plan is divided into 7 districts; districts 1, 2, and 3 are along the French Broad River.

⁴⁸ UDA 12

Each district will be developed with a particular theme involved. District I, north of the site, is designed as a gateway to the RiverWay. The primary concern here is the current bridge crossings of I-240 and the future I-26 connector.⁴⁹ District II will be developed, according to its current uses, as a River Arts District. The focus of this area lies along the rail corridor between Roberts Street, to the east, and Riverside Drive, to the west. The Tannery Area of District III is located well below the floodplain and is therefore planned for development as a recreational area accommodating a whitewater kayaking course and small recreational businesses.⁵⁰

A unique loft district and industrial building character will be the theme of District II, the River Arts District. Existing and new structures will be developed as live-work units for artisans and others. The masterplan design shows buildings creating a series of courts which can be used for craft and farmer's markets. These ground level activities can help to energize park and recreation spaces across the road. The plan recommends that the stone supplier (on the thesis site), the bottled gas company, and the recycling center be relocated to another, more appropriate site.⁵¹

The programmatic themes for these districts will be adopted for the thesis. The concept of live-work units and ground level markets will be incorporated. The amphitheatre shown in the plan (Figures 72 and 73, on the following pages) is not thought to be an appropriate use. Activities held here will primarily be event-based, which bring non-residents to the area for only a brief time. These visitors do not feel any ownership or connection to the site, and therefore devalue the area through abuse of resources.

⁴⁹ UDA 14

⁵⁰ UDA 19

⁵¹ UDA 16, 17

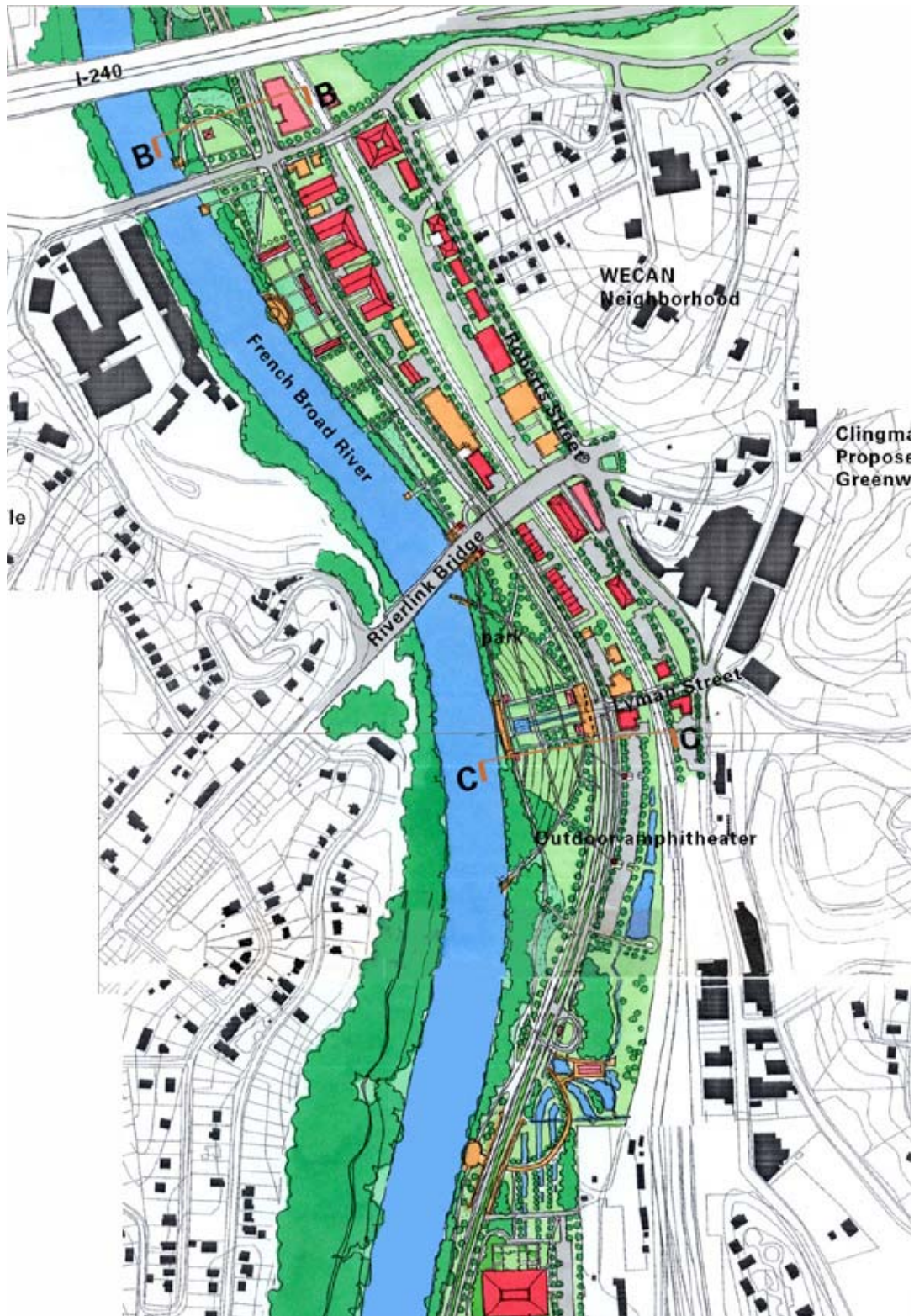


Figure 72: District Master Plan⁵²

⁵² UDA

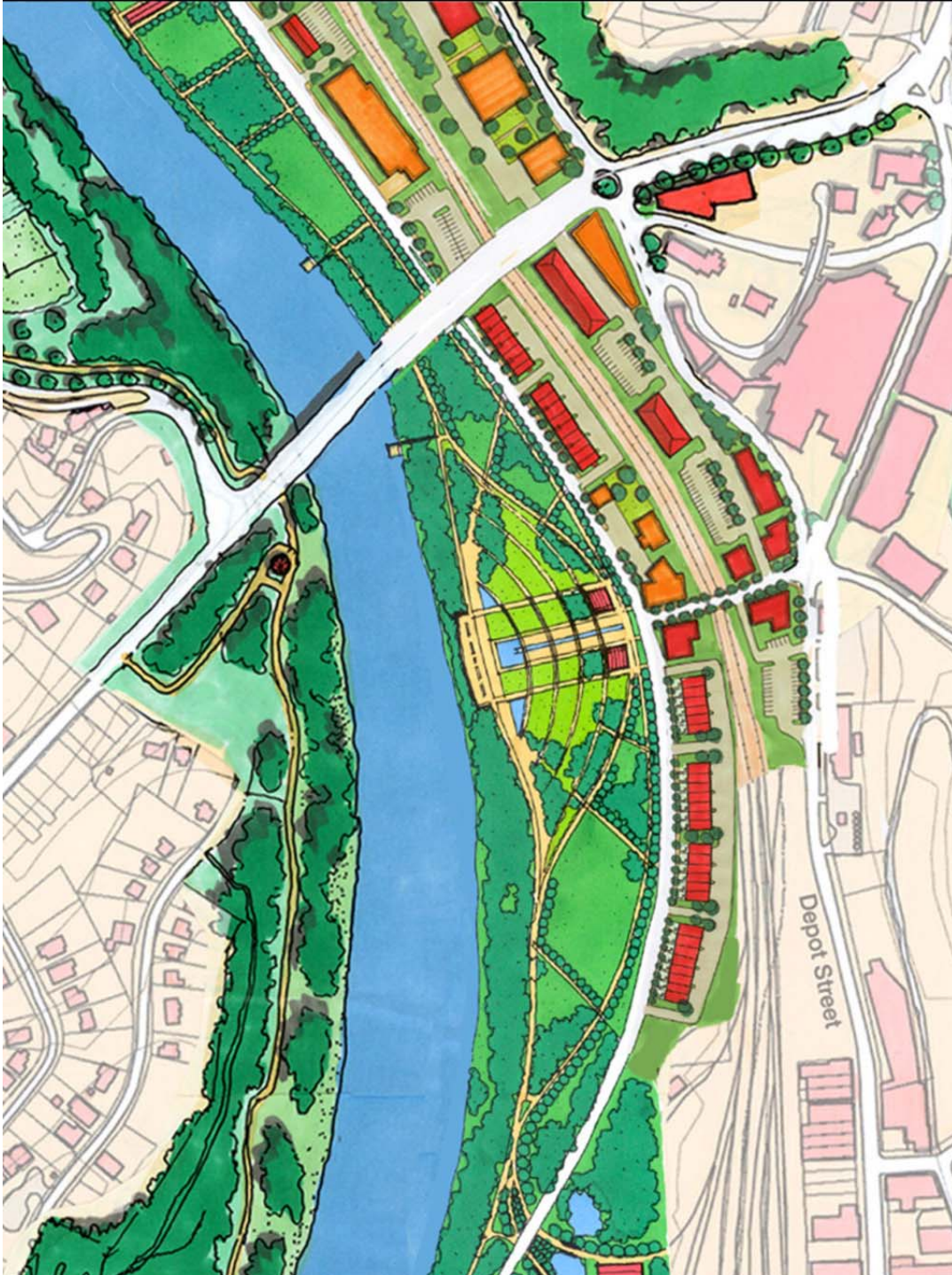


Figure 73: District II Plan⁵³

It is proposed that the rail yard be redeveloped with private ownership, and primarily residential uses. This will link the district to the WECAN neighborhood. The plan reroutes Lyman Street to create a continuous line following that of Riverside Drive. These concepts will be adopted for the thesis.

⁵³ UDA

The River Arts District is an opportunity to create mixed-use, mixed-income housing. The industrial heritage of the mills that distinguish this district can also be preserved. Studios, lofts, and live-work spaces will strengthen the River Arts District.



Figure 74: Current Condition⁵⁴

This rendering shows the current state of the district. Many mill and warehouse buildings are abandoned and boarded up and there are many empty, overgrown lots.



Figure 75: River Arts Marketplace⁵⁵

This rendering illustrates the potential of the River Arts District as an active marketplace.

⁵⁴ www.riverlink.com

⁵⁵ UDA 16

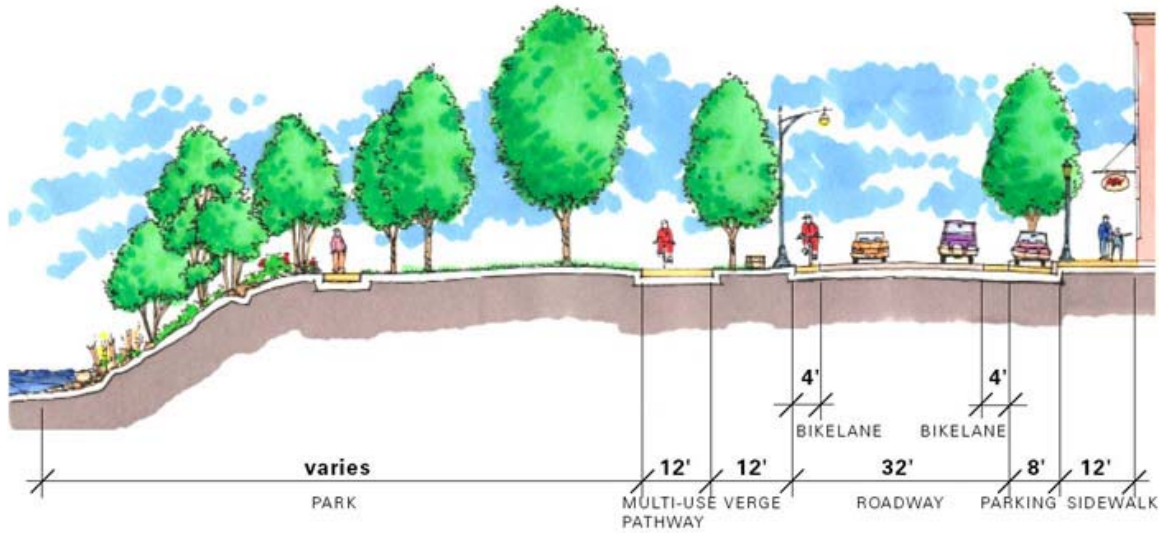


Figure 76: Typical district section⁵⁶

This typical District II Riverway section illustrates the park buffer near the water.

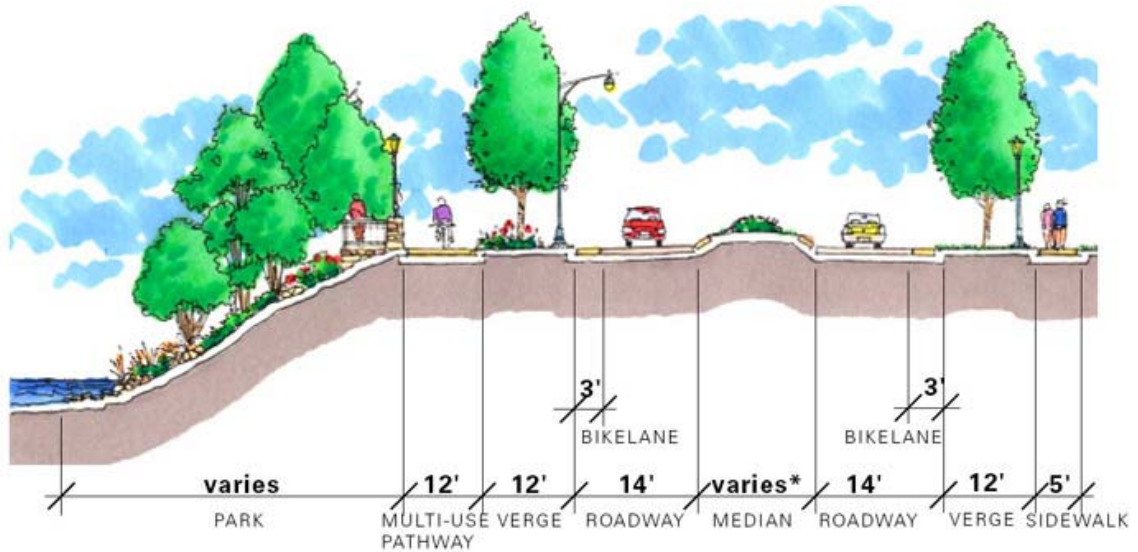


Figure 77: Typical district section⁵⁶

Typical design section for a two-lane River Way with median.

The proposed typical sections found in the masterplan will be adopted for the thesis.

⁵⁶ UDA 16

In addition to the land-use planning, the master plan also includes prototype designs for buildings in the floodplain. Residential and office uses can occur on upper levels of buildings while parking and small studio, retail, or market spaces can occupy the ground floors. Buildings of this type will be proposed along Riverside Drive north and south of the new River Arts Center.



Figure 78: Illustrative housing section.

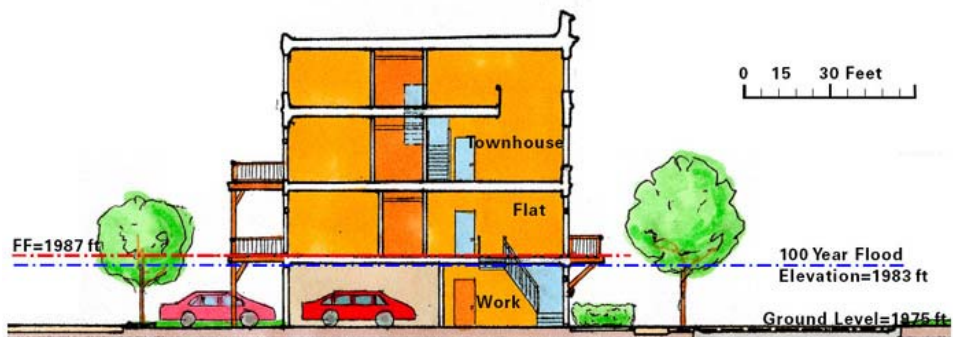


Figure 79: Illustrative Live-Work Section

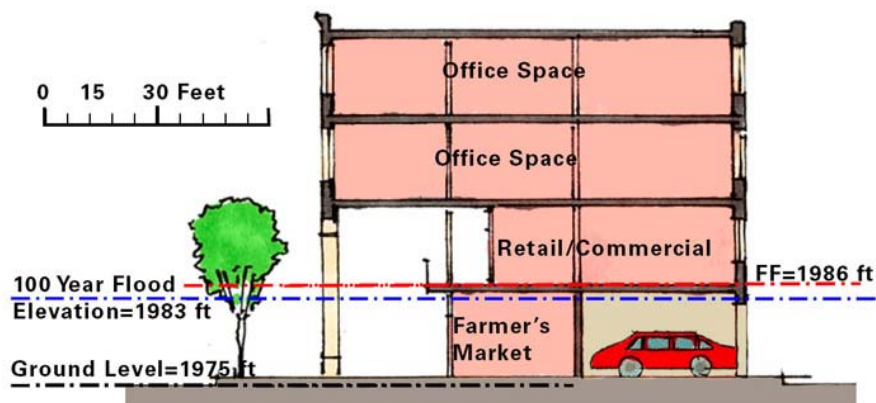


Figure 80: Illustrative commercial building section.

Chapter VIII: Overall Design Goals and Approach

The primary design objective of this thesis is to represent architecturally the culture of Place as described in Chapter One. The program brings together ideas of the river and the arts, the physical and the cultural contexts, to discover a new vernacular. A new public facility at this site will give prominence to the urban riverfront.

A masterplan for the area makes better use of the land along the river and sets forth prototypes for buildings along the riverfront as well as programming appropriate uses. The masterplan extends the line of Riverside Drive across the intersection with Lyman Street, to follow the path of Old Lyman street. The location of a civic building at this intersection creates a centerpiece for this district. There is also a connection across the railroad tracks at this location which links the riverfront to the Aston Park neighborhood. A half mile to the north is another crossing which links the district to the WECAN neighborhood. Making better physical connections to the east and downtown will encourage development of the riverfront and will make park space more viable. The masterplan also proposes a new city bus loop that serves Riverside Drive and Lyman Street; circulating from the University to Biltmore Avenue.

Formally, the building will make a link between the historical vernacular and a contemporary future. The warehouse vernacular was created based on the needs and understanding of the site over 150 years ago. These buildings were intended for the storage of things and were made massive and enclosed as a means of protecting goods and because of the technology of building (load-bearing masonry) available.

Following the Flood of 1916, industrial activity here began to vanish. The city has slowly found its new purpose here which is the home and workplace for many of its artists.

This thesis proposal seeks to articulate how this new understanding of the landscape and new activities of the culture will find themselves in a transformed building vernacular. Both the physical structure and its programming respond directly to the culture of the site.

This thesis accepts the current planning goals of the City of Asheville and will not propose designs or interventions that are not directly relevant to the immediate site.

Special Design Problems and Issues

The most obvious and greatest challenge is that the site sits in a floodplain. A primary goal of this thesis is to demonstrate that building in a floodplain and sustainable design are not necessarily in conflict with each other.

Since its beginning Asheville has had a relationship with the river. The location of the thesis site is where the built city encounters the river most closely. Many uses have had their home here from resort hotels to industry. The industries have almost all been abandoned and the city is struggling to reclaim this valuable land and to coexist with the river. We must avoid ‘fight or flight’ responses. Rather than attempting to control the river or running from it, we must find a way to live side-by-side, enabling each, the river and the city, to enrich the experience of the other.

The masterplan for the river district dedicates a continuous swath of land at the river bank to a park. This park will include bike paths, boating docks, and other public uses. Adjacent to this thesis site, the extension of Roberts Street will be made into a public plaza that extends all the way to the water’s edge.

The design will respond to the floodplain by lifting up the building and allowing the waters of periodic flooding to flow under and through the structure. The building structure will use sustainable materials and respond to more typical site issues of solar orientation and winds. Such responses to site are typical of vernacular ways of building.

The world will not evolve past its current state
of crisis by using the same thinking that
created the situation.
~ *Albert Einstein*

Chapter IX: Sustainable Planning and Design

The World Commission on Environment and Development defines a sustainable society as one that "meets the needs of the present without compromising the ability of future generations to meet their own needs."⁵⁷

This thesis applies sustainable design features not because it is interesting or popular, but because it is the only way that future development should occur. As designers of the built world, we must continue to move beyond thinking of "sustainability" as just a buzz-word, and apply it as constant consideration at all stages of design. With this in mind, the term can be broken down into three components: social consciousness, cultural awareness, and ecological preservation (green architecture). Each of the three components should be addressed simultaneously in design.

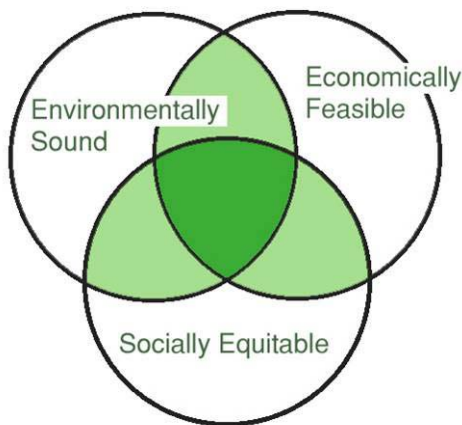


Figure 81: Elements of sustainability

The Arts Link center responds in the following ways:

- Social Consciousness – participating in the revitalization of a devalued neighborhood.
- Cultural awareness – providing a venue for the sharing of a 200-year old tradition of craftmaking; and promoting the continued value of the arts in the community.
- Ecological Preservation – redeveloping industrial land into parks and valuable real-estate; making material, orientation, and technological choices that respond to and respect the natural environment.

⁵⁷ <http://en.wikipedia.org>

The following diagrams illustrate some architectural issues that will be considered for the thesis.

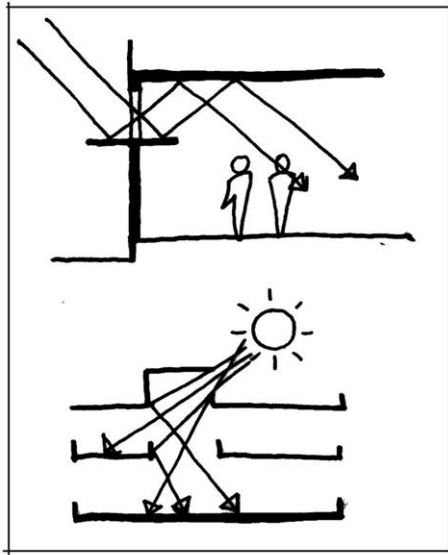


Figure 82: Natural Daylighting

When using natural daylighting, the designer must take into account the proportion and dimension of rooms. Other considerations include diffusing light to avoid glare, and the inclusion of automated daylight sensors.

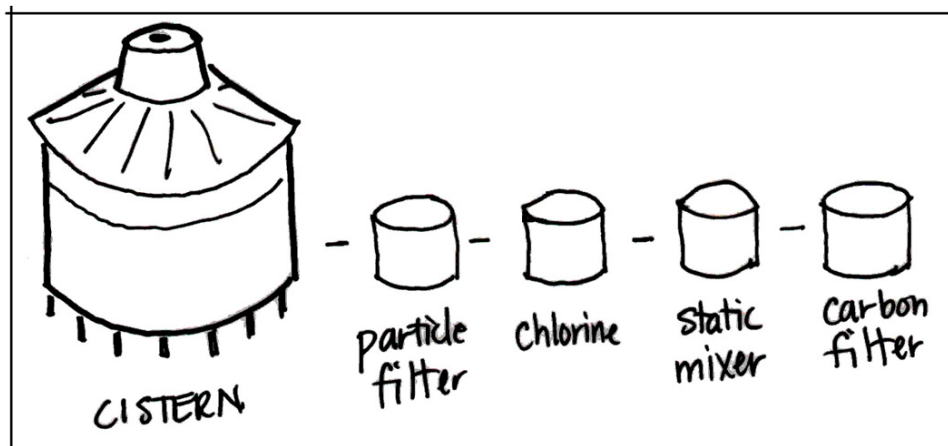


Figure 83: Water collection and filtration

Rainwater can be collected and filtered for use as irrigation, laundry, and mop or hand sinks.

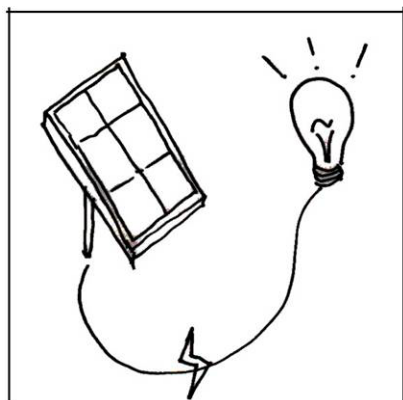


Figure 84: Solar energy collection

Solar energy can be used for hot water or to supplement the electrical needs of the building.

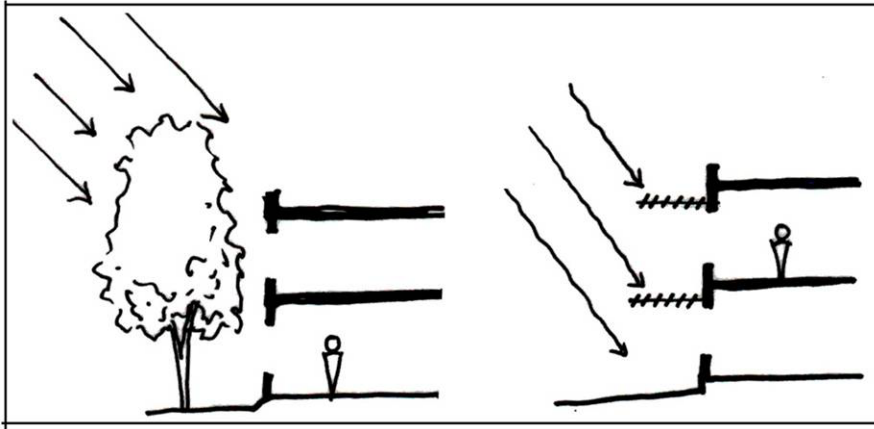


Figure 85: Shading
Shading devices can be natural or built, and are particularly important on the south side. Such devices are more effective when used on the exterior to prevent heat gain.

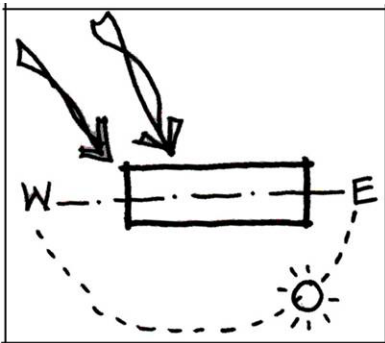


Figure 86: Plan and orientation

A thin, rectangular plan enables better temperature control. Orienting the long face to the south maximizes positive solar exposure, and minimizes hot afternoon sun in the west. The building should also take advantage of the predominant winds.

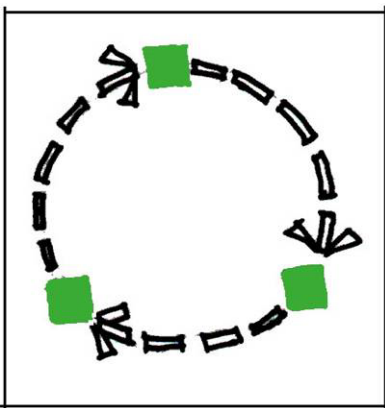


Figure 87: Recycling

Materials of high recycled content will be used where possible. Recycling facilities will also be accommodated on site.

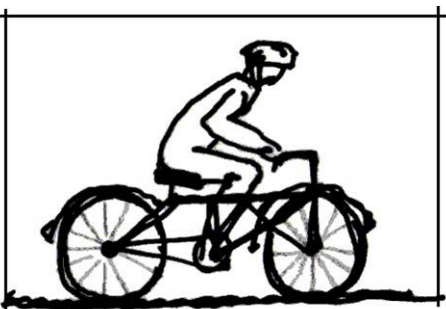


Figure 88: Alternate transportation

Transportation methods other than a personal automobile should be accommodated and encouraged. The proposed continuous riverway incorporates bicycle paths. Bike racks will be accommodated at the art center.

"When members of a society wish to secure that society's rich heritage they cherish their arts and respect their artists. The esteem with which we regard the multiple cultures offered in our country enhances our possibilities for healthy survival and continued social development."

--*Maya Angelou*

Chapter X: Program

Extensive study of the character and activities of the site revealed the need to unite two existing non-profit organizations for mutual benefit. The building program for this thesis is a home for RiverLink and the River District Artists. While it is similar to an arts center, it does not include working studios in-house because there are already many working studios in the neighborhood. The program does include studios for visiting artists in an auxiliary building.

The center houses offices and exhibition space related to the French Broad River, its history and ecology, and the arts that it inspires. To help fund their endeavors, an open air market, restaurant, and event hall are included in the program.

Overview of Specific Program Elements

Education

A research area includes a small library, primarily as a resource relating to the French Broad River shed. Computer stations are also included for online and database research. Two classrooms will be used for community programs as well as staff meetings. An assembly hall for approximately 150 people provides a venue for lectures, community meetings, and other events.

Exhibition

Two types of exhibition spaces are envisioned. The art exhibition spaces are 'sale' galleries, displaying the work of local artists for purchase by the public. The river exhibition space includes both cultural and technical information relating to the French Broad River and its history. Information regarding growth and sustainability is also a part of this. Additionally, changing exhibits pertaining to both the river and

the artists will be accommodated; some of these exhibits may occur in the outdoor terrace or the market plaza.

Outdoor Program

A public plaza extends from the ground level of the building across Riverside Drive where it interacts with a park extending North and South along the riverbank. The park provides a green buffer for the river and includes bike and walking paths. Outdoor sculpture displays and a weekly market take place in these outdoor spaces. Many artists currently take advantage of the unique scenery of the district to create and display large sculptures. The building's physical context and expression serve as a teaching tool for sustainable design and respect for the river and watershed. Visible from the East entrance are rainwater cisterns and a bioswale.

Program Summary and Tabulation

- **Public and Entry Spaces** 5,000 sq. ft.
 - Main Lobby – 1100 sq. ft.
 - Restrooms – 900 sq. ft.
 - Circulation – 3,000 sq. ft.
 - **Administrative** 3,380 sq. ft.
 - Offices – 2,880 sq. ft.
 - Storage – 500 sq. ft.
 - **Education** 1,800 sq. ft.
 - Classrooms
 - 2 @ 400 sq. ft.
 - Research area – 1,000 sq. ft.
 - **Exhibition** 14,200 sq. ft.
 - Galleries
 - River - 4,600 sq. ft.
 - Art galleries – 8,600 sq. ft.
 - Exhibition prep and storage – 1,000 sq. ft.
 - **Service / Support Spaces** 4,400 sq. ft.
 - Mechanical systems – 2,600 sq. ft.
 - Delivery, trash, and recycling – 1,800 sq. ft.
 - **Café** 4,000 sq. ft.
 - Dining (interior and terrace)
 - Kitchen and Service
 - **Assembly Hall**..... 3,500 sq. ft.
 - Assembly – 2,100 sq. ft.
 - Terrace – 600 sq. ft.
 - Furniture storage and equipment room – 780 sq. ft.
- Total square footage of interior spaces: 36,280 sq. ft.**
- **Visiting Artist Studios** 10,600 sq.ft.
 - Loft units and circulation – 8,000 sq. ft.
 - Shared work space – 2,600 sq. ft.

Chapter XI: Urban Intervention and Site Strategies

In order to vitalize the riverfront and give the site a greater sense of place, the industrial lots must be redeveloped. The Riverway master plan created by Urban Design Associates was carefully developed and takes into account issues of ecology, land use, and density. This thesis will adopt many of the elements of the master plan as described below.

- Lyman Street will be redirected to follow the line of Riverside Drive.
- The area where the site is located will be developed as an arts district, while the area to the south is planned as a recreational district.
- Land west of the street will be reserved as a natural landscape and park space.
- The majority of new construction will be housing, primarily aimed at providing combination home and work-space for artists.

There are a few ideas that the thesis elaborates on related to site -planning strategies. The following diagrams illustrate goals of new development and served as guidelines during the design process.

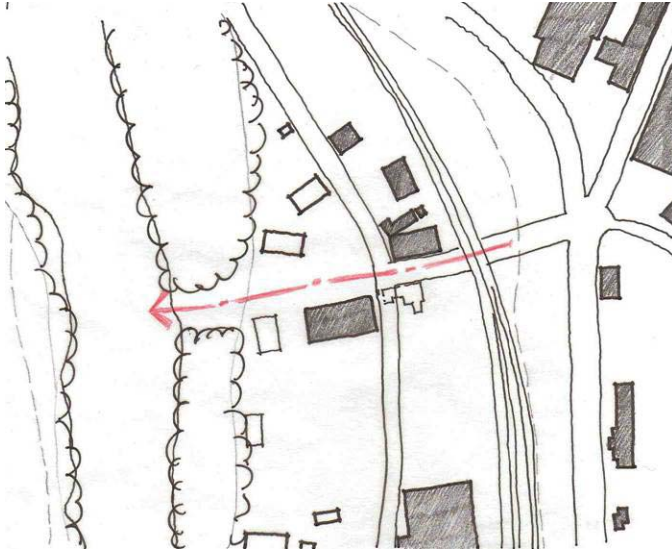


Figure 89: Design Guideline 1
Create a view corridor to the river from Lyman Street



Figure 90: Design Guideline 2
Maintain a 100 foot green buffer at the riverbank. Provide paths and trails for bikers and others within a 200 foot zone along the river's edge.

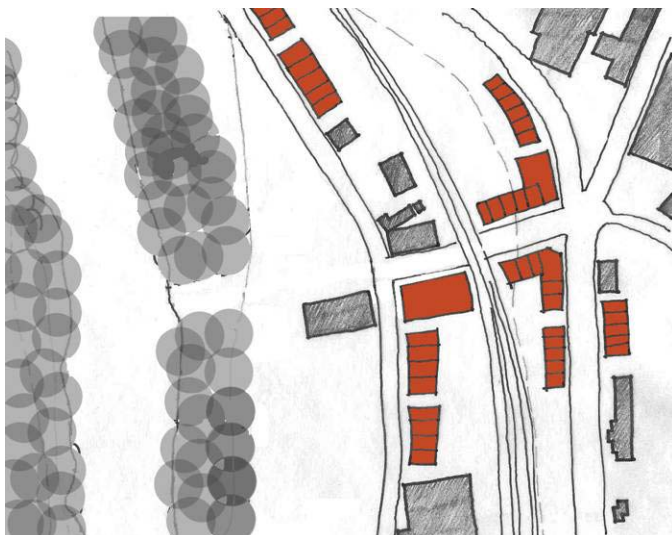


Figure 91: Design Guideline 3
In order to bring new life to the neighborhood, the plan calls for new development of housing, studios, and recreational facilities along Riverside Drive. The plan also includes mixed development on Depot and Roberts Streets, including office, retail, and more housing.

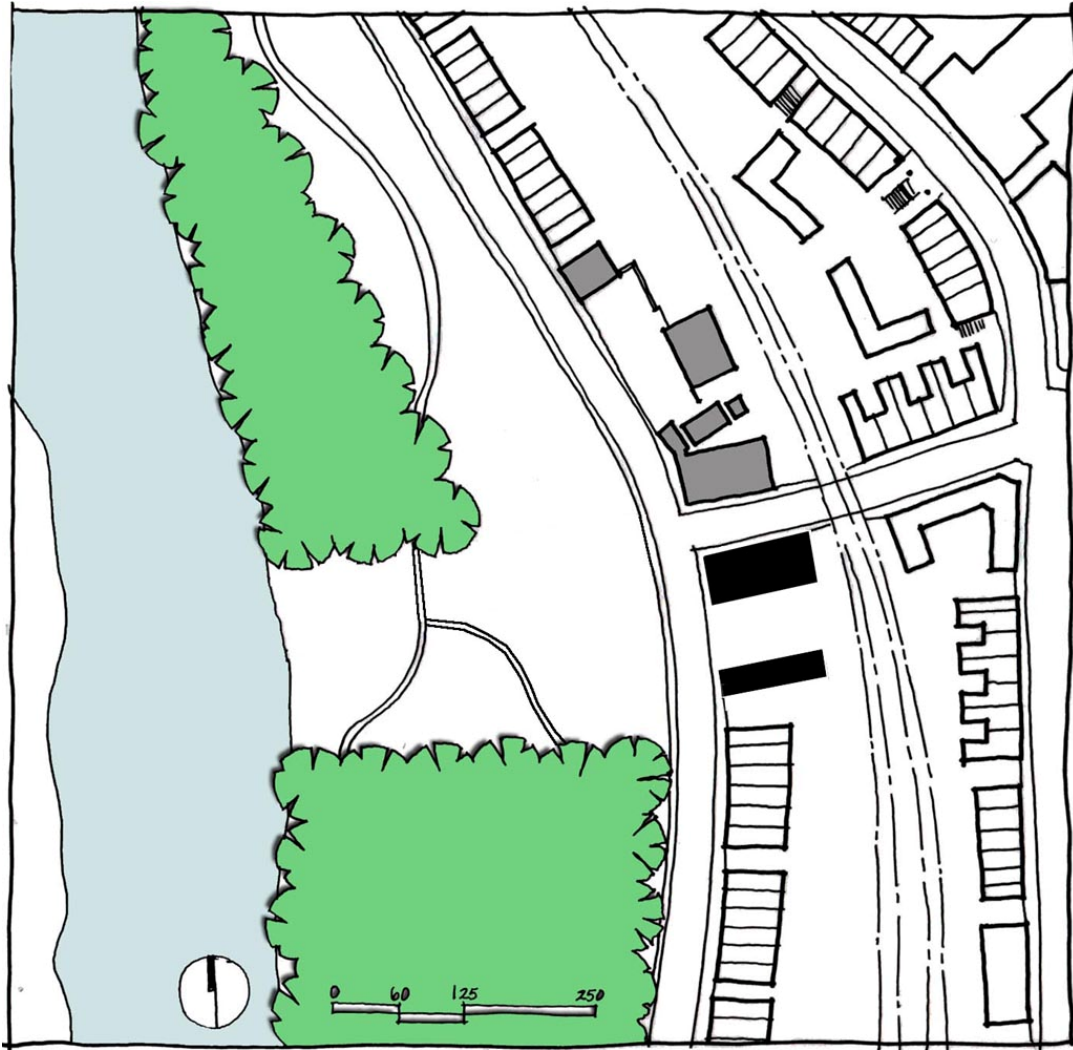


Figure 92: Park Scheme

This scheme proposes new construction lining the eastern edge of Riverside Drive, which preserves the land between the river and the street for park and recreational areas. The RiverArts Center would be located on the southeast corner of the street intersection.

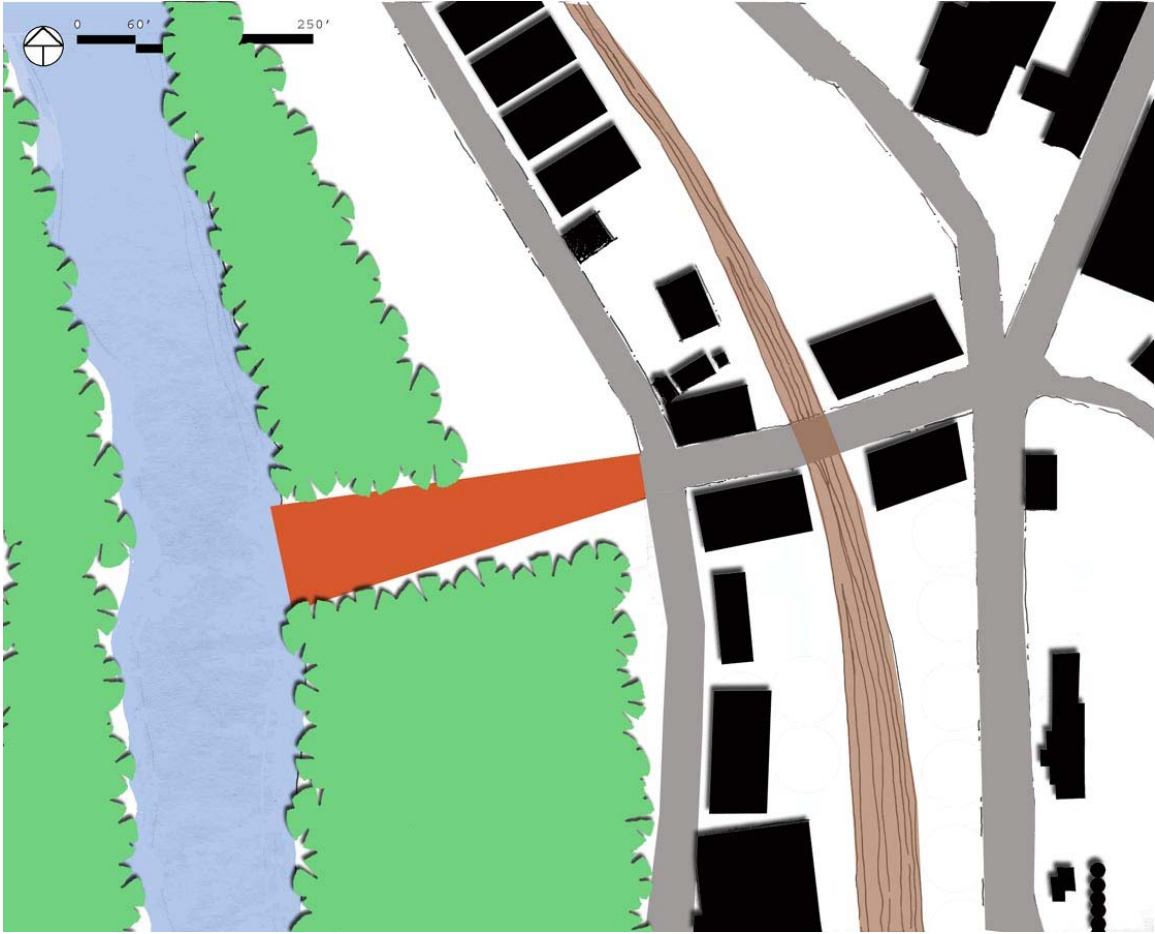


Figure 93: Plaza scheme

This scheme proposes a public plaza as an extension of Lyman Street to the river. New development will occur lining the East side of Riverside Drive. A grid of trees will be planted to create a natural buffer and absorb and filter water runoff before it drains into the river. The center is located at the southeast corner of the street intersection.



Figure 94: Pavilion Scheme

This scheme lines Riverside Drive with new construction and places the art center on the west side. Set apart from other buildings, the center will become a visible landmark. A series of outdoor pavilions relating to river exhibits could be placed in the landscape.

Chapter XII: Conceptual Design Approaches

Scheme One – Courtyard Scheme

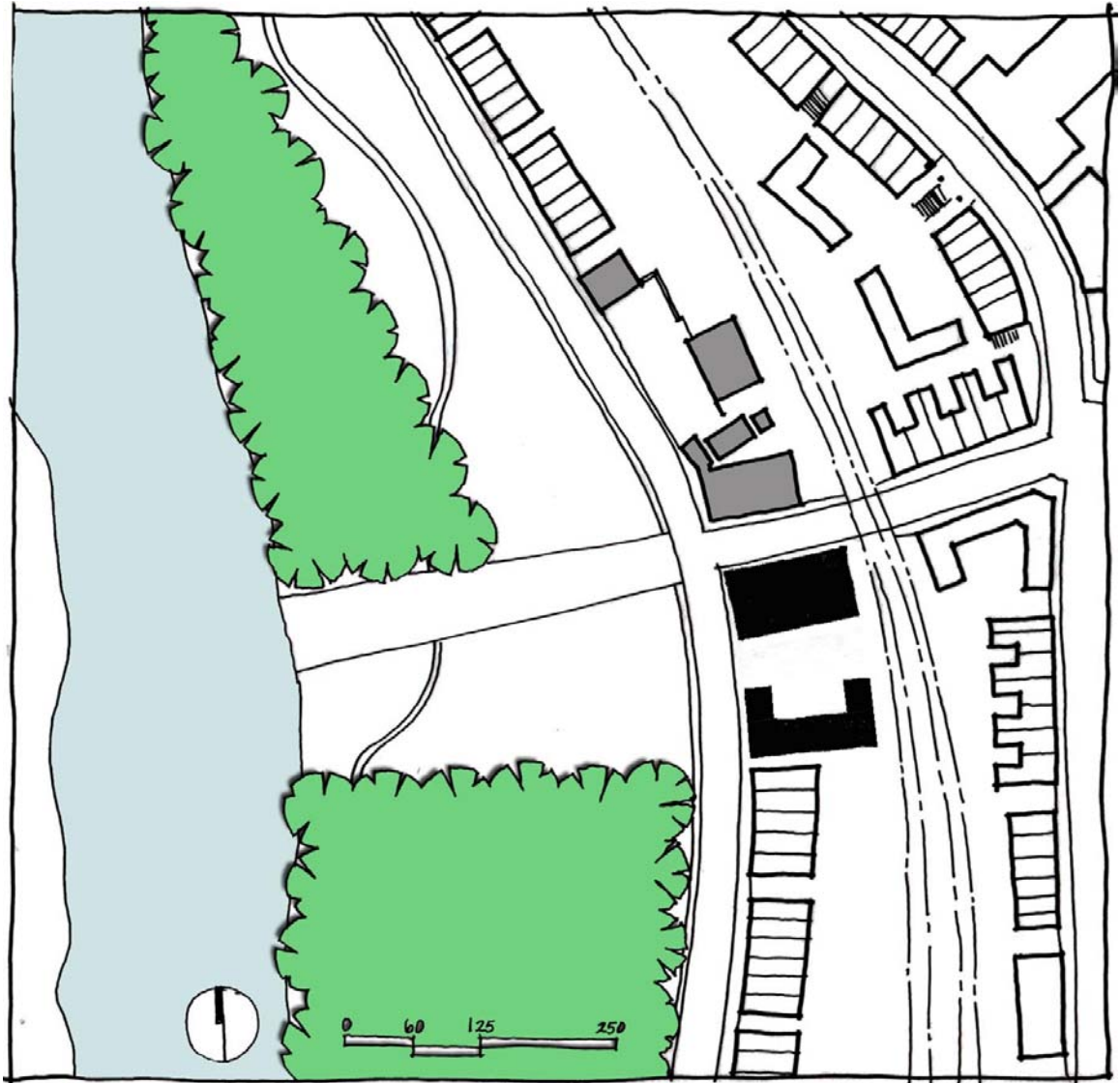


Figure 95: Courtyard Scheme – Site Plan

The arts center reflects the massing of the existing warehouse building across Lyman Street. A narrow building creates an open plaza between. This scheme has a heavy massing but relates well to the context. Also, the visiting artists studios can be separated from other program elements in the two buildings.

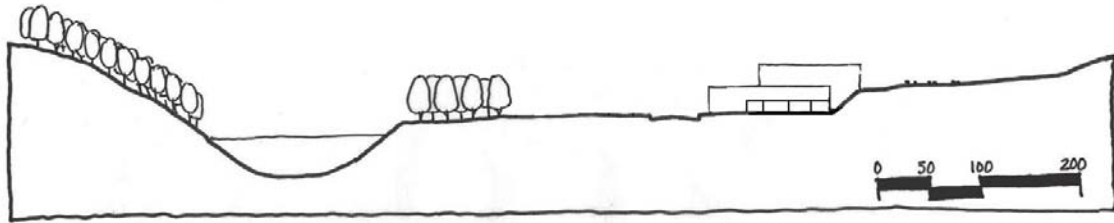


Figure 96: Courtyard Scheme - Site Section

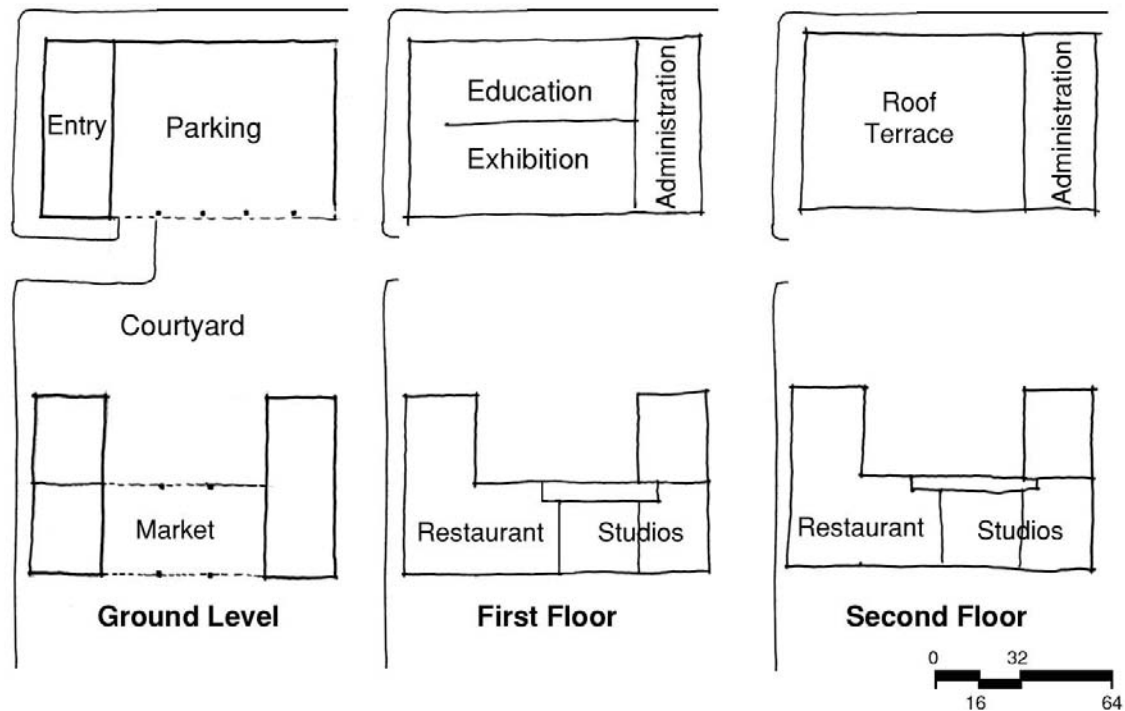


Figure 97: Courtyard Scheme - Schematic Plans

Having multiple buildings allows for greater separation of the program. The artist's studios and restaurant would be located in the thinner U-shaped building, while the primary functions would be in the larger structure. Parking and an open air market will occupy the ground level of the buildings, with a courtyard between.

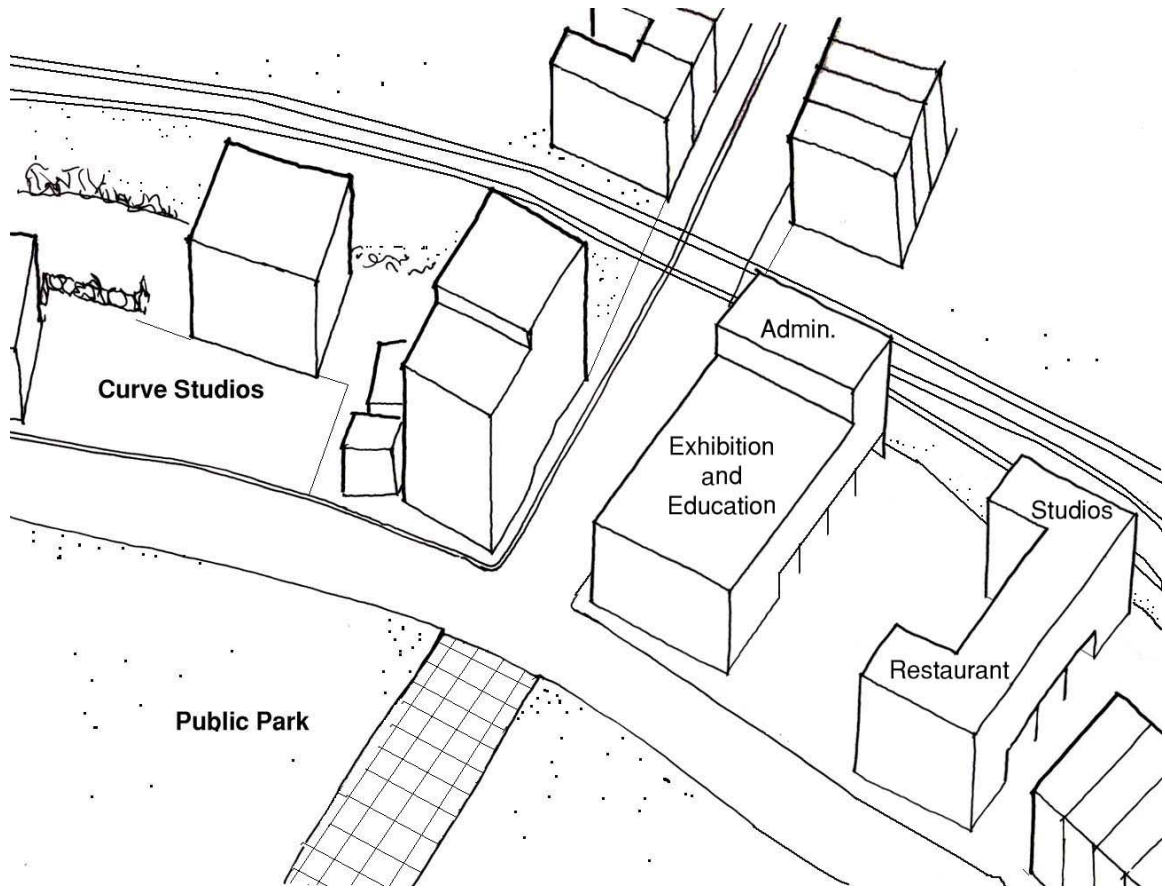


Figure 98: Courtyard Scheme - Axonometric

This scheme is in keeping with the massing of neighboring industrial buildings. Just north of the site, the buildings owned by Curve studios are arranged around a courtyard, this occurrence is common along the riverfront. The courtyard for the RiverArts Center would be used as a farmer's and craft market certain days of the week, and could also provide a venue for outdoor events.

Scheme 2 – Bar Scheme



Figure 99: Bar Scheme – Site Plan

In this scheme, the warehouse building would be removed to open up views to the river from the new arts center. Three narrow structures are linked by a bridge. This scheme has a light massing, and the thin footprint optimizes conditions for natural lighting and ventilation.

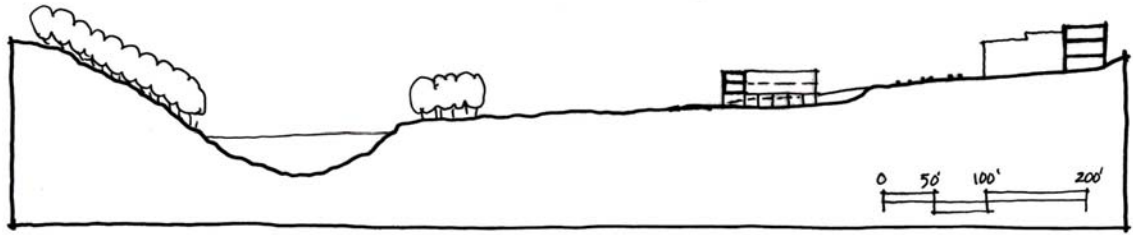


Figure 100: Bar Scheme - Site Section

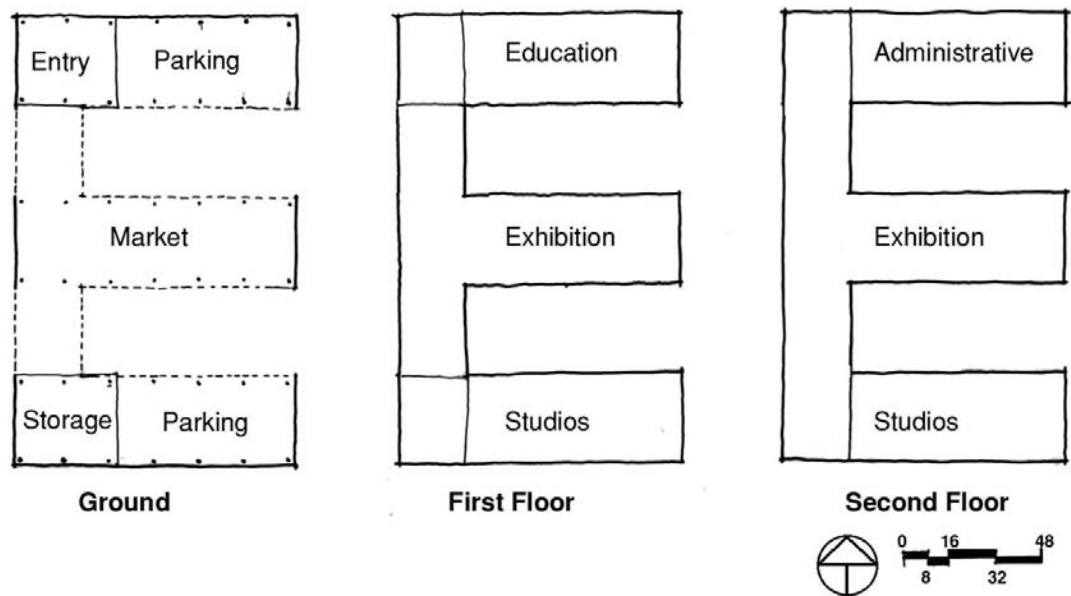


Figure 101: Bar Scheme - Schematic Plans

The narrow dimension of each bar enables all program elements to have plenty of access to light and air. Parking and an open air market would occupy the ground level while other elements are equally divided on two upper floors. The most public spaces are located on the 'piano nobile', and the art gallery/exhibition space is on the top floor where there is most opportunity for sectional manipulation.

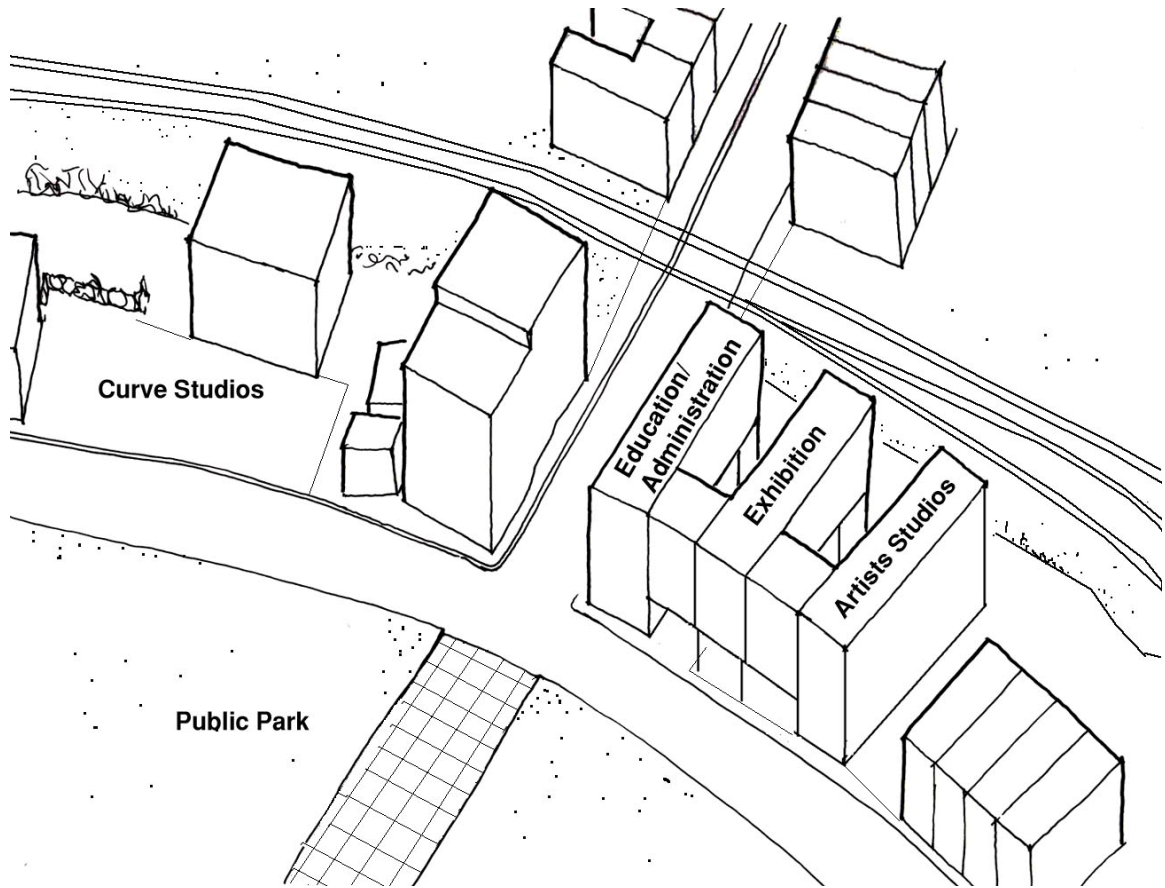


Figure 102: Bar Scheme - Axonometric

This scheme attempts to create an urban edge to the street while spreading the program out to provide a sequence of indoor and outdoor spaces. This scheme could be elongated to create a more varied experience from one end to the other. Having a narrow footprint for each wing means all spaces will have access to much natural light as well as ventilation. More space to the rear of the site could enable the building of a bioswale to handle rainwater runoff.

Scheme 3 – Liner Scheme



Figure 103: Liner Scheme - Site Plan

This scheme has a somewhat heavier massing but interacts well with the context and creates a strong urban edge for this corner.

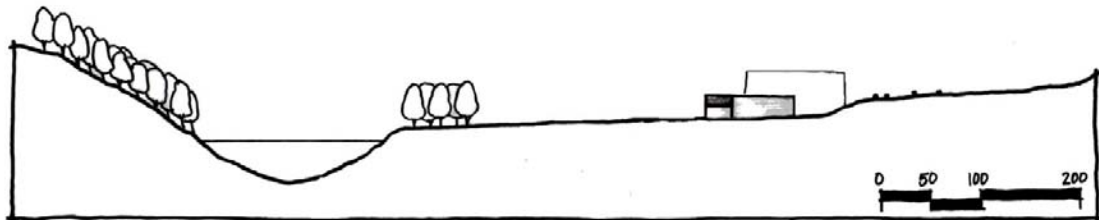


Figure 104: Liner Scheme - Site Section

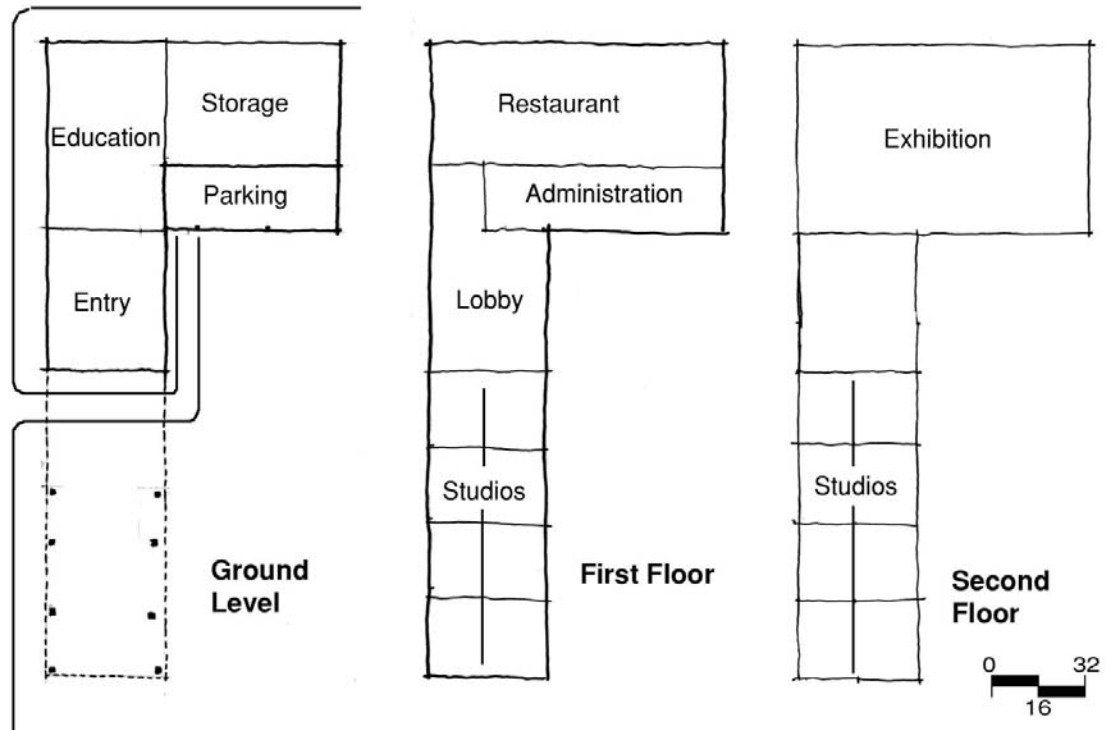


Figure 105: Liner Scheme - Schematic Plans

The bridge piece connecting the north and south wings will serve as entry and lobby piece. Studios for visiting artists will be placed in the southern portion. The larger north wing provides a large floor plate for other program pieces.

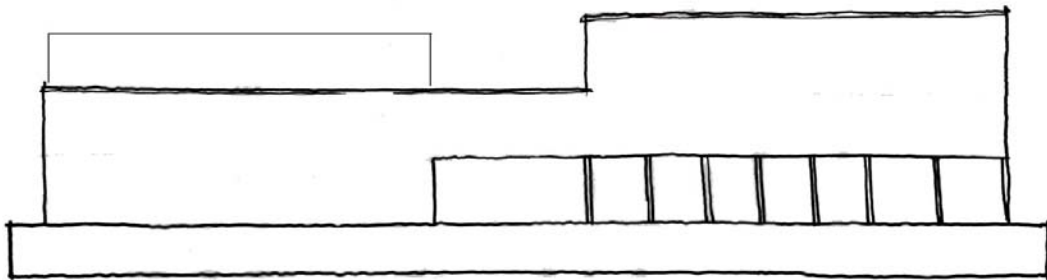


Figure 106: Liner Scheme - Schematic Elevation

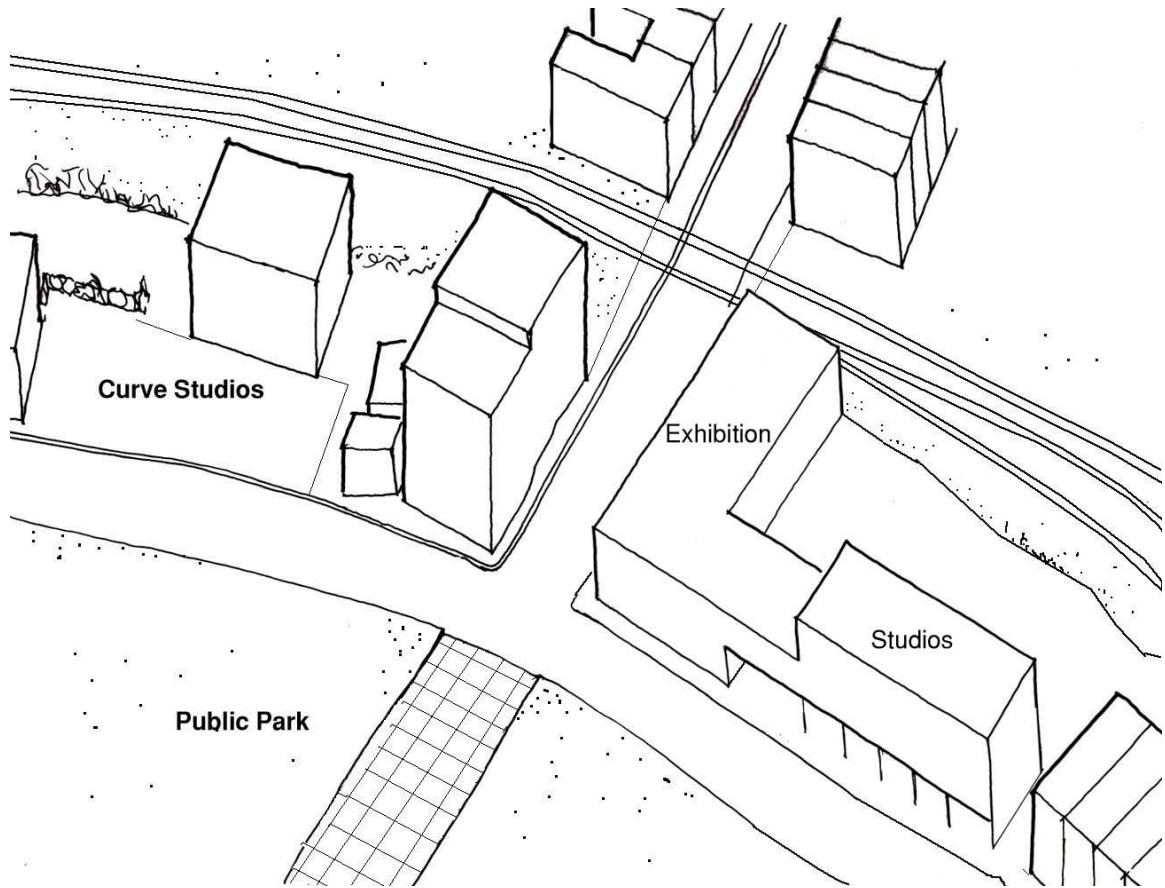


Figure 107: Liner Scheme – Axonometric

The goal of this scheme is to create a well-defined street edge at the intersection of Lyman Street and Riverside Drive. The center will have a strong presence on the site and by hugging the street, the rear of the site is opened up for other uses. Outdoor pavilions and demonstrations could be provided for the river exhibits. The spacing also enables a larger buffer from the railroad tracks.

Chapter XIII: Final Concept

This thesis began with an idea about place and how architecture is made in response to cultural and physical contexts. Ultimately this becomes an exploration of a modern vernacular.

Vernacular architecture is born of place and is systemic – not a building type, a material, or even a language of massing; but a unique selection of each element of architecture based on physical and cultural contexts which change over time, while being rooted in the history of a place.

The final design incorporates these ideas, and addresses the needs of the site at each scale.

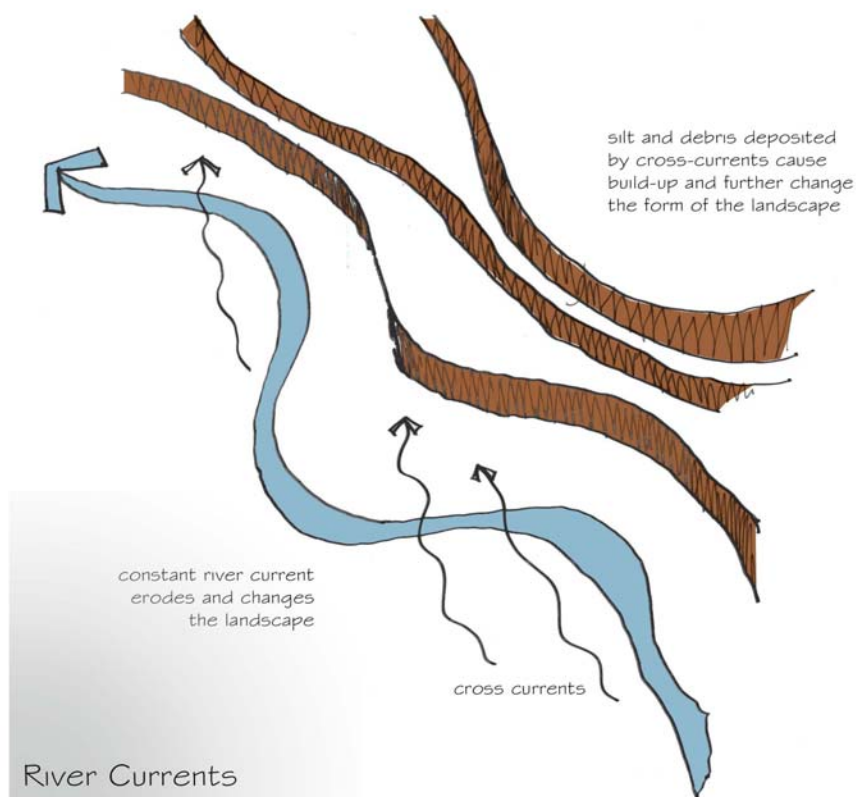


Figure 108: Diagram - River and Erosion

As the river flows, its current is depositing silt and debris as well as eroding away the land. This idea of dynamic change and erosion of surface manifests itself at many different levels in the design.

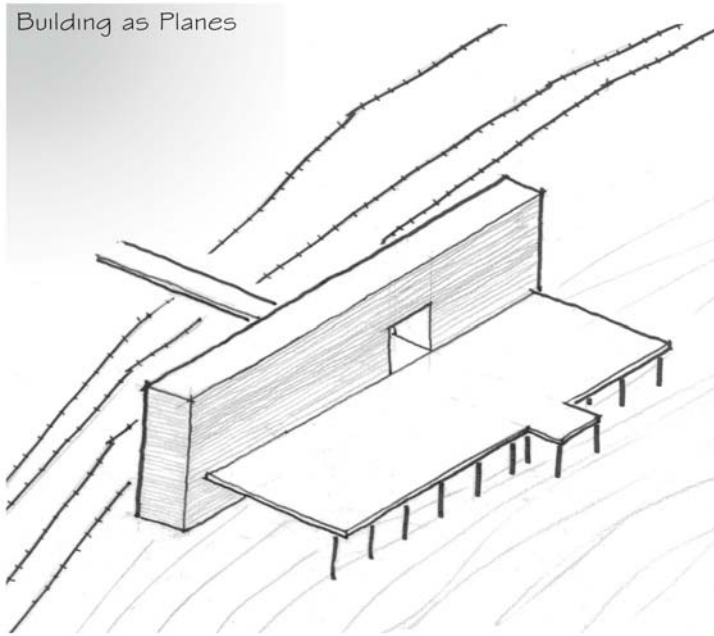


Figure 109: Diagram – Planes

This diagram illustrates an initial idea about planes lifting the building above the flood plain and buffering from the railroad.

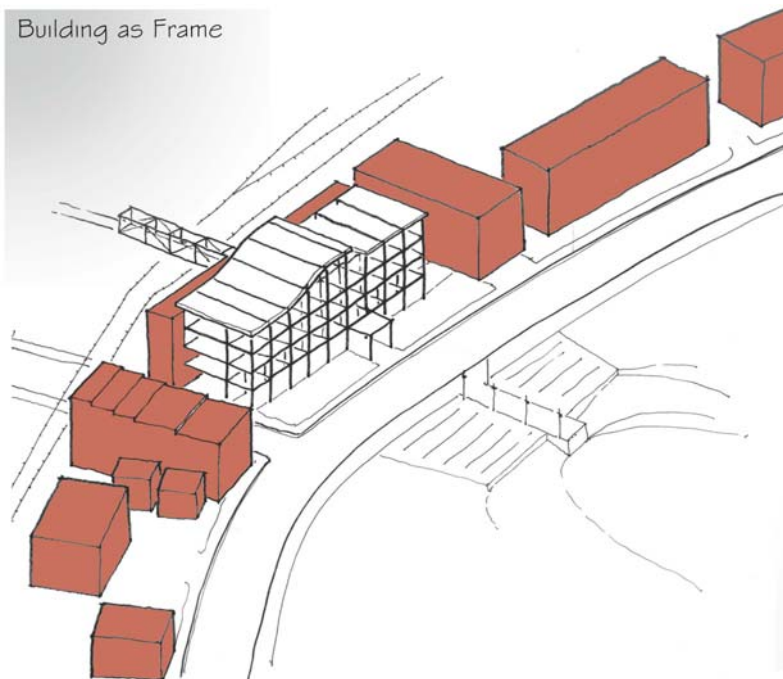


Figure 110 - Fabric Diagram

At the scale of the street, this diagram shows the line of industrial fabric, which becomes thin at the location of the ArtsLink Center. Nestled within this, the structural grid becomes a framework within which spaces and surfaces are pushed and pulled.



Figure 111 - Site Plan

There are 2 approaches to the building: one which relates more to the urban cultural context and one to the landscape context.

The first approach would be someone arriving from the city, who would find parking off of Depot Street. A visitor coming this way would enter by way of a bridge over the industrial rail. This type of approach is important because the visitor is brought through the industrial history of the site.

The second approach to the building would along Riverside Drive from either the north or south, where visitors can easily understand the street edge created by the brick studio buildings. From the south, one can see the relationship between old and new warehouse structures, the frame of the Center, and even to the mountains beyond.

From this approach the visitor also sees the landscape as it relates specifically to the building. A ground pattern reaching across Riverside Drive creates a plaza for sculpture as well as the weekly market. When entering the building beneath the canopy (created by terrace above) the visitor can hear water running below them, as if they are hearing the flow of the river, even though they are far from it. This flow of water is released at an 'overlook' at the west edge of the sculpture plaza.



Figure 112: East Entrance

A truss bridge frames the East entrance to the building. A ramp leads up slightly from the parking, and crosses over the active railroad. The visitor enters at the first floor, which is 22' above the ground plane.



Figure 113: View to the South



Figure 114: View to the North

This drawing illustrates the activities of the weekly market as well as the building's relationships to the studio building (right) and the curved roof to the mountains.

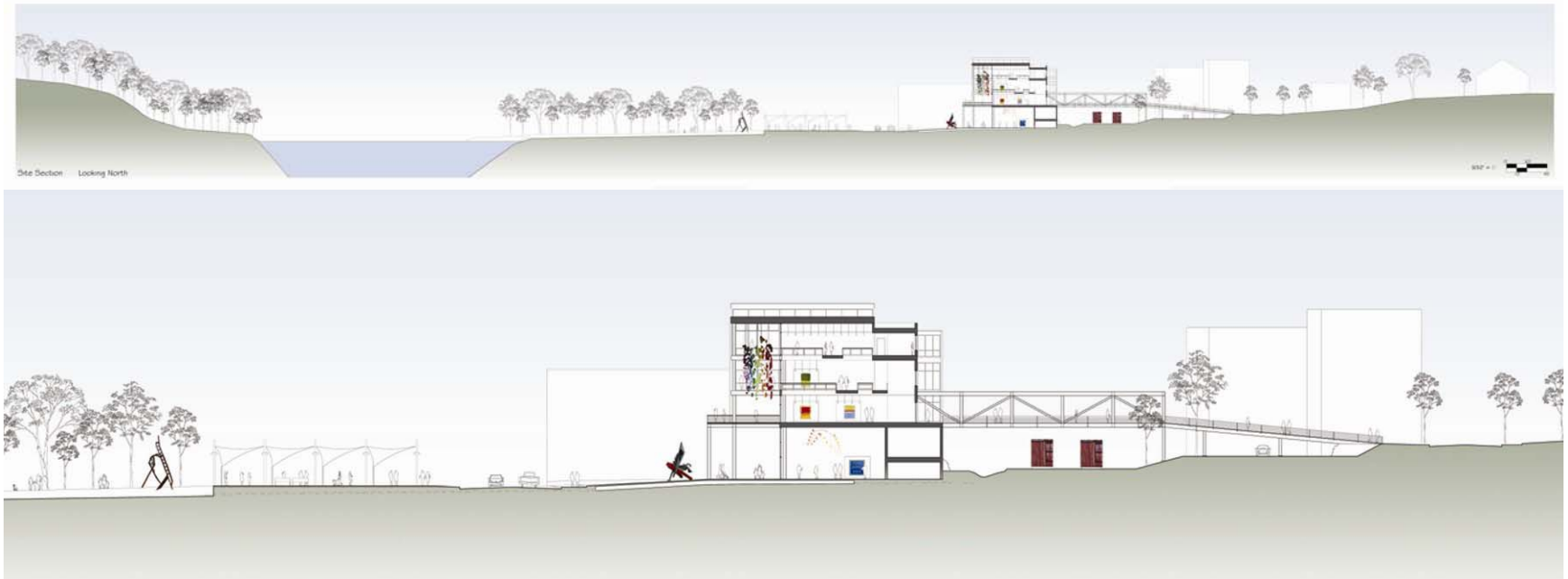


Figure 115: Site Section

The site section (and enlarged portion) illustrates the connection of the bridge over the railroad, and the distance to the river.

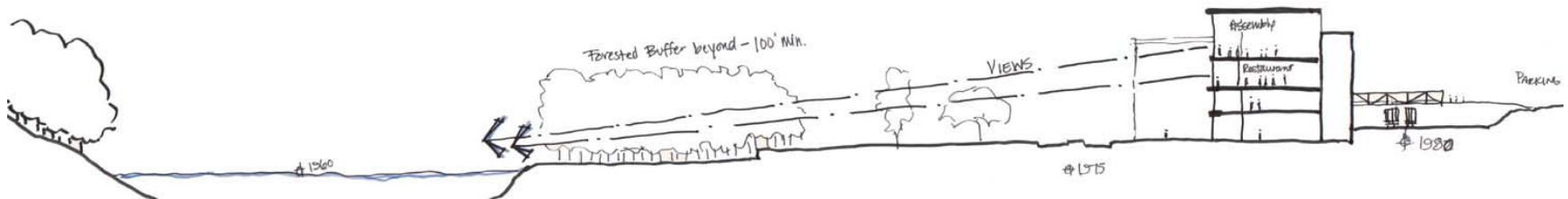


Figure 116: Site Section Diagram

This diagram was made early in the design process. Lifting the program up not only clears the floodplain, but also provides better views to the river.



Figure 117: Ground Plan

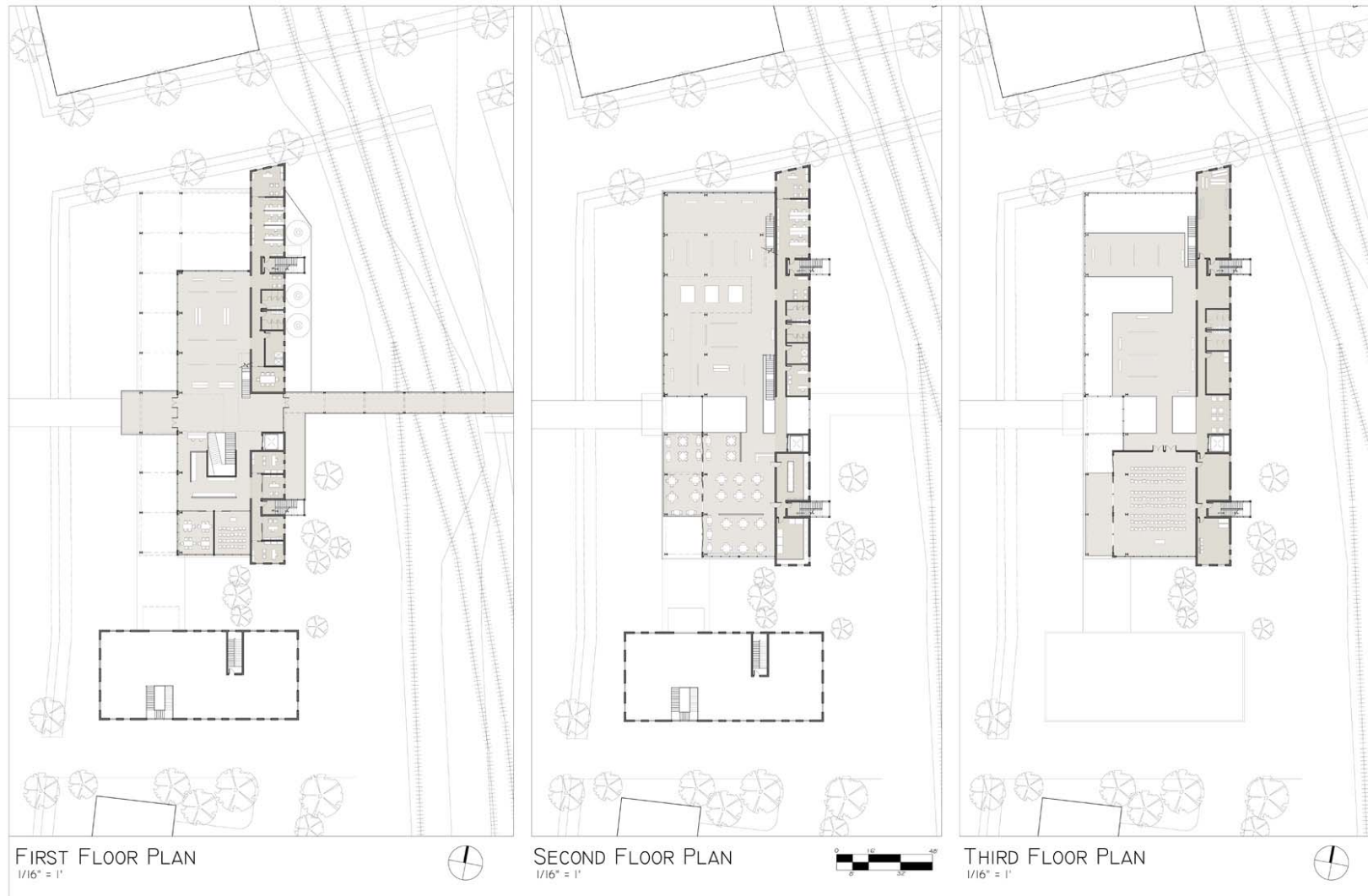


Figure 118: Floor Plans



Figure 119: Longitudinal Section

Coming up the main stair from the ground the visitor arrives in the lobby, where they are also met with the east entrance from the bridge. This tall space enables visitors to quickly understand the scope of the building, also letting natural light penetrate deeply. This atrium also serves as an organizing element for the building. To the north are gallery spaces and to the south are event spaces. The ground and first floor levels house exhibits relating to the river, such as the history of the French Broad and water resources. The second and third floors house the art galleries.

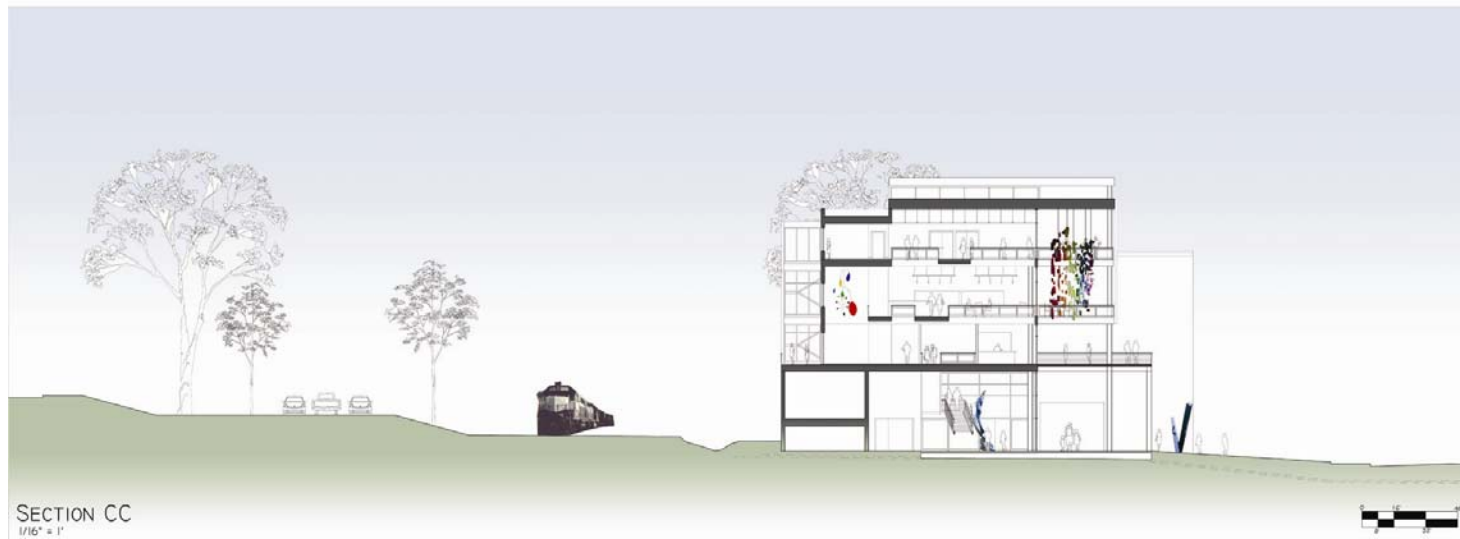
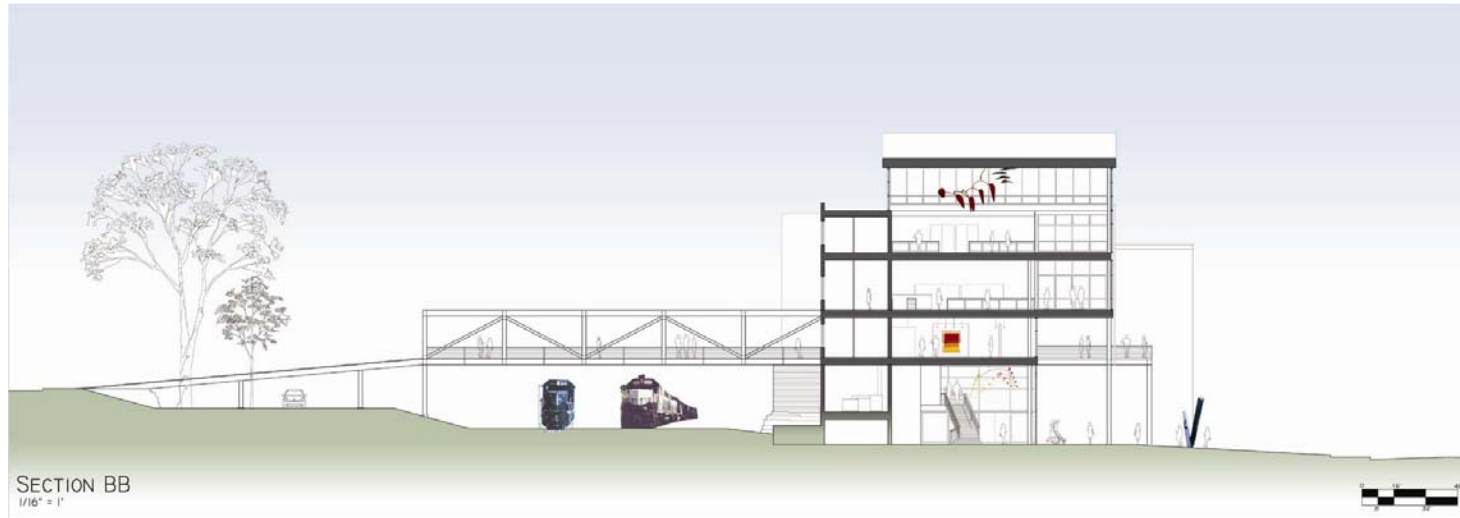


Figure 120: Transverse Sections

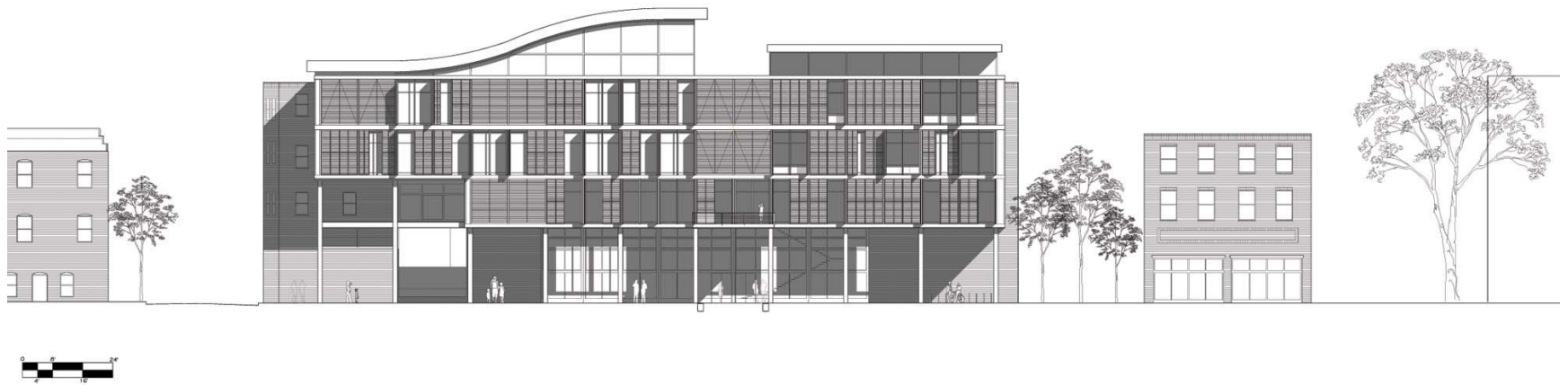


Figure 121: West Elevation

The character of the building is expressed in this elevation which is book-ended to the north and south by brick studio buildings which exemplify the historic vernacular of the industrial warehouses.

The façade is made in two layers. The first is a glazed curtain wall which is sometimes pulled back from the edge of the frame to create terraces within the second layer, which is made from a series of louvered shutters which respond to the west sunlight.

The shutters also relate, on a finer scale, to the concept of changing dynamics of site because they enable the occupants to control daylight, breezes, and views within the building. The façade will be always changing according to time and season.

The curve of the roof responds to a number of aspects of the site. First, it is pulled up on the south side to capture sunlight which is then reflected into the space. Additionally it relates to the city's vernacular, as a reflection and response to the form of surrounding mountains. Major civic buildings downtown such as the City Hall and First Baptist Church have prominent domes or other roof forms that reflect the mountains.



Figure 122: Wall Section

This typical wall section was studied and evolved throughout the design process. Ideas about the operable glazing, the structure of industrial steel, and the operable shutters were continually being evaluated for their effectiveness and appropriateness.



Figure 123: Ground level – sculpture garden



Figure 124: Ground floor entry and main stair



Figure 125: Atrium



Figure 126: Third floor galleries

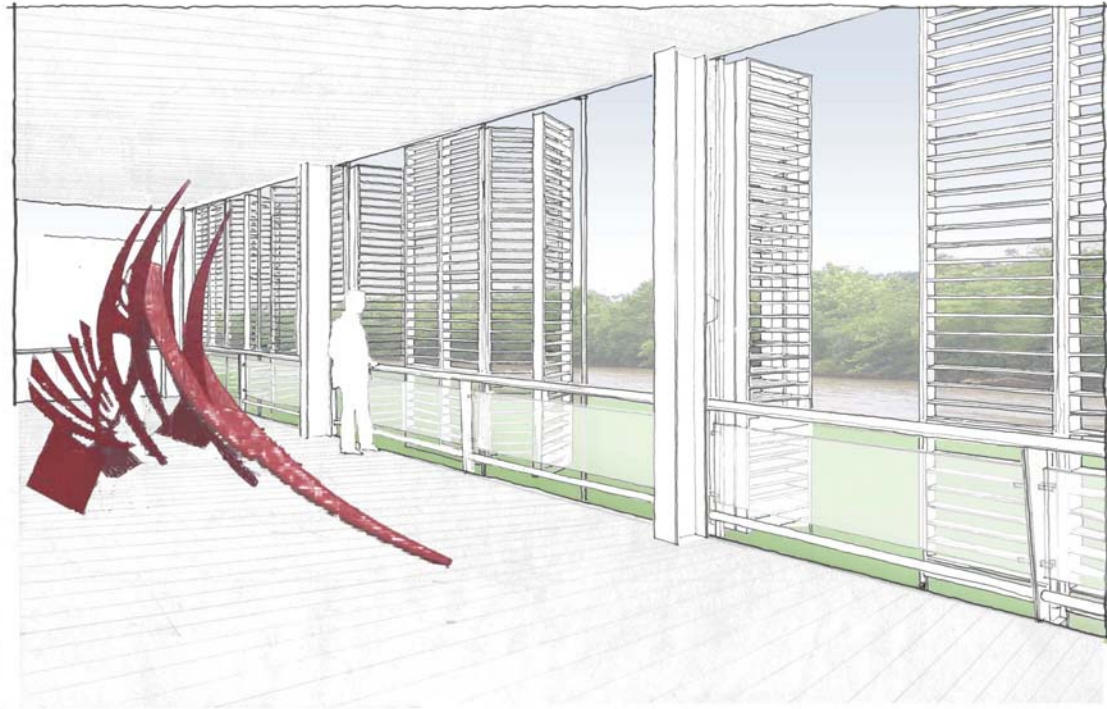


Figure 127: View from assembly hall terrace

Sustainability is a characteristic of traditional vernacular building, therefore, in addition to the formal aspects of the proposal, there is also a sustainability agenda. The city has learned that there must be a new way of co-existing with the French Broad River. A new vernacular will arise which accepts frequent flooding conditions as a natural occurrence. A new way of life at the riverside is already being established by resident artists. The following drawings and diagrams illustrate the sustainable principles of the project.

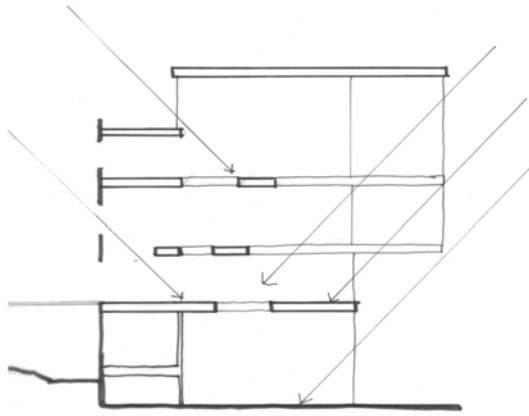


Figure 128: Daylighting

Daylighting reduces the need for electric lighting, and makes for a more pleasant indoor environment.

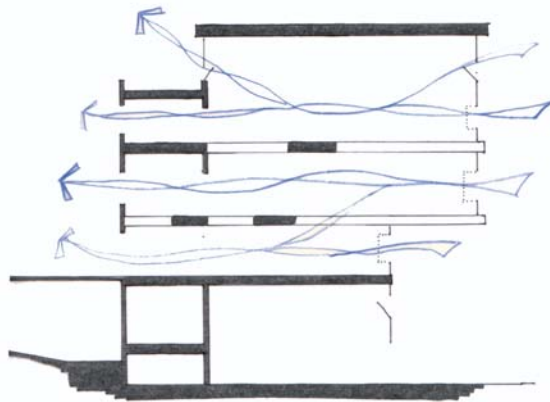


Figure 129: Natural Ventilation

Because of the naturally mild climate in Asheville, building occupants will be able to take advantage of operable windows letting through cool breezes. As noted earlier, the average summer temperature is in the upper 70s.

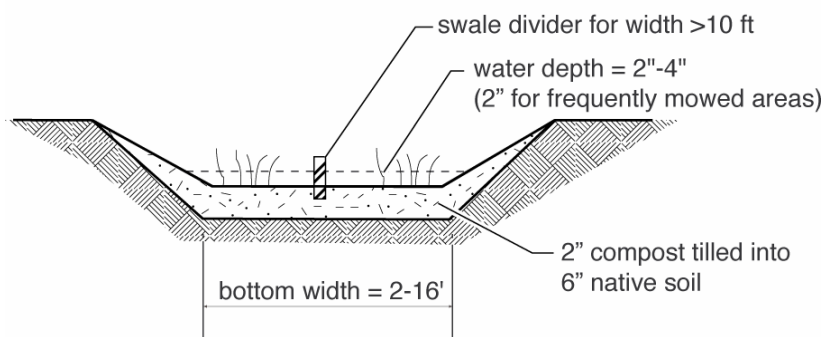


Figure 130: Typical Bioswale

The bioswale is located to the east of the building. Native plants and grasses help to purify rainwater runoff from the parking and railroad. The swale holds water temporarily so that it can infiltrate into the soil instead of running off quickly to the river causing erosion and flooding.

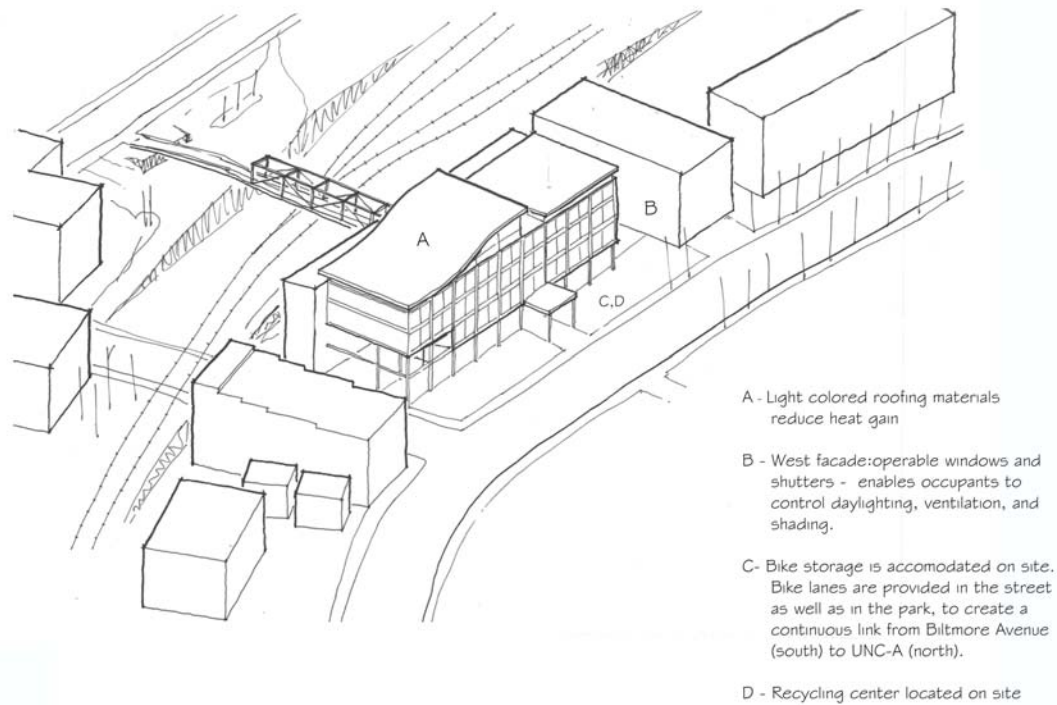


Figure 131: Sustainable Principles

- A - Cisterns collect rainwater from roof to be re-used for irrigation and toilets. 47,000 gal
- B - Bioswale - slows and purifies rainwater runoff from parking and railroad above it; reduces pollutants that enter the river.
- C - Solar collectors provide hot water in buildings.
- D - Landscaping uses native plants and materials, with minimum impervious surfaces. Riparian plants, which thrive in wetter soils, are used in the park (west). Gravelpave, a pervious paving surface is used for the plaza.
- The level portions of the grass (plaza and sculpture garden) are supported with 'Grasspave' a product which provides structure within the ground. This is useful here to support heavy sculptures which may be installed as well as vehicles likely to be driven or parked on the land during market activities.

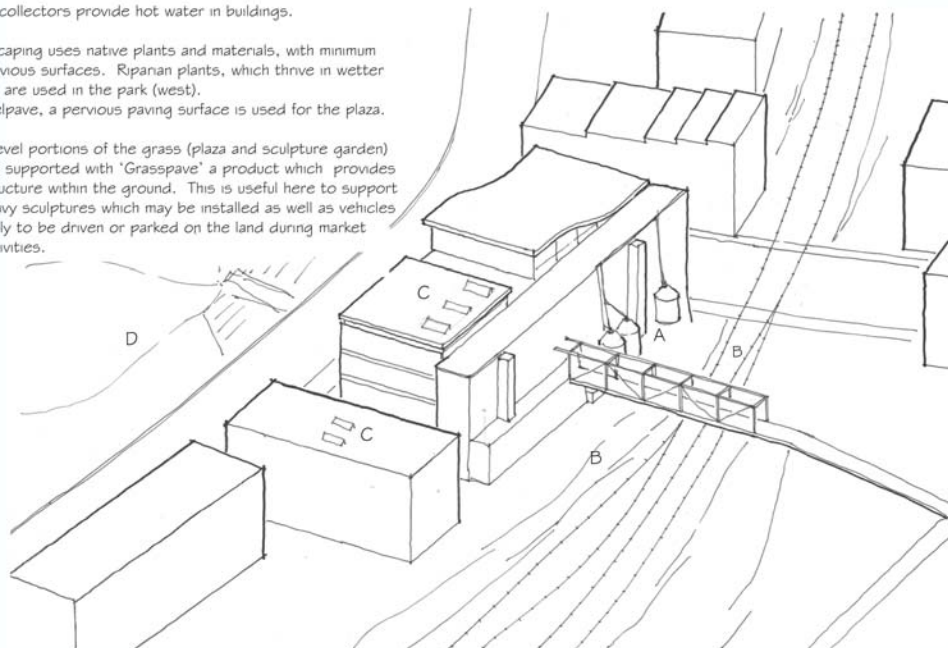


Figure 132: Sustainable principles

Landscaping

Native plant species are used for all landscaping.

Riparian plants thrive in moist soils.

Trees such as Carolina Rose, Blue Flag, Black Willow, Possumhaw, and Redbud would be used in the FloodWay.

Other species to be used:

Small: Cherokee Chief, Flowering Crabapple

Medium (25-40'): Black Tupelo - very colorful in fall
Sourwood - lacy flowers, brilliant fall colors
American Yellowwood - very hardy tree

Large (40'+)
October Glory (sugar maple) - very adaptable
River Birch - 'Heritage' tree
American Sweetgum - fruitless, colorful
Scarlet and White Oak
Bald Cypress - deciduous conifer, good in wet soils

This list of plants adapted from NC Arboretum recommendations www.ncarboretum.org

Materials

Natural and renewable materials

cork - interior floor finish
wood - shading louvers/shutters

Recyclable materials

structural steel
brick found on site

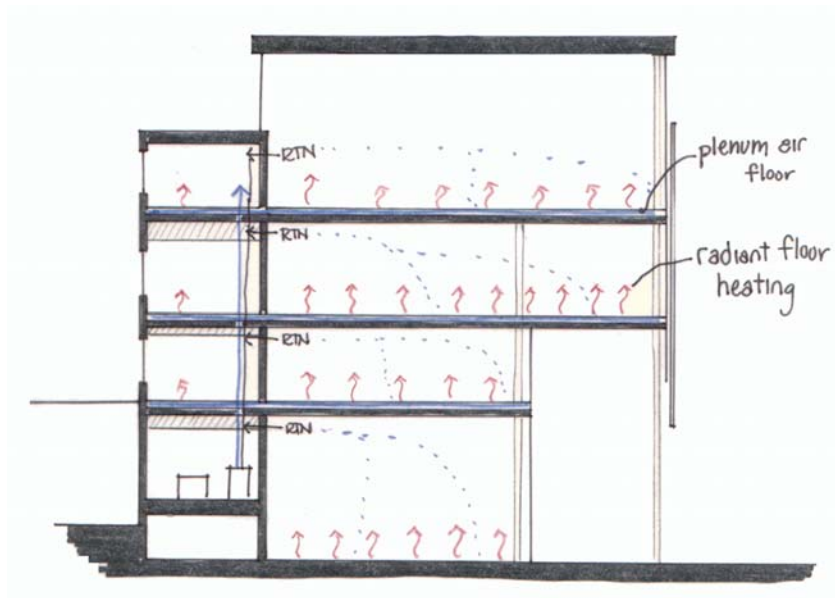


Figure 133: Mechanical Systems

Heating is provided in floor with radiant coils. The cooling system is also located within a plenum air space under floor. By circulating air from below, heavier particles in the system will not be blown around with the air, creating a cleaner indoor environment and better air quality. The ceiling is lowered in the bar portion (east) to provide for return ducts.

The primary mechanical room is located at a mezzanine between the ground and first floors. This ensures that equipment is located above the floodplain.

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