

ABSTRACT

Title of Thesis: MEANING THROUGH USE: ADAPTIVE REUSE OF
THE CHESAPEAKE & OHIO CANAL

Kathleen Coleman O'Hearn, Master of Architecture, May
2004

Thesis directed by: Professor Angel Nieves, PhD, Department of Historic
Preservation

The intersection of urban and natural in addition to old and new in Georgetown allows a unique opportunity to explore how people today find meaning in these features. Adaptive reuse and the re-creation of experiences, as opposed to museum style preservation, are becoming integral components of an Historic Preservation continuum. Interacting with the past creates a *living* history.

This project strengthens the connection between the neighborhood and its history. The Genealogy Library and Archive places an importance on individual contributions to the history of Georgetown and provides a venue for the current population to discover this significance. The patrons can also access other genealogical centers and ascertain their "sense of place" within their own particular family history.

The landscape program along the canal as well as the building's bond with the urban fabric invites the people who work and live in Georgetown to use it as an alternative route to M Street. The centerpiece to the design is the urban plaza at the intersection of M Street and Wisconsin with a terraced café and series of ramps cascading towards the canal. The interpretive elements further nurture an understanding of Georgetown's early reliance on the canal and create a unique node in the city.

Placing a new value on the C & O canal and engaging it in everyday life creates a stronger sense of place. The history of the site will not be relegated to the one time museum visit but will gain meaning through constant use.

MEANING THROUGH USE: ADAPTIVE REUSE OF THE
CHESAPEAKE AND OHIO CANAL IN GEORGETOWN

By

Kathleen Coleman O'Hearn

Thesis submitted to the Faculty of the Graduate School of
The University of Maryland, College Park in partial fulfillment
of the requirements for the degree of
Master of Architecture
2004

Advisory Committee:

Dr. Angel David Nieves, Chair
Professor Julie Gabrielli
Professor John Maudlin-Jeronimo

DEDICATION

To my wonderful family

ACKNOWLEDGMENTS

I wish to thank many friends and Professors who have guided me through this endeavor, especially, Rochelle Martin, Ed Orlowski, Brooke Wortham, and John Jeronimo. A special thanks to the friends who helped me through the final phase of the thesis, Tracy Marquis, Vanessa Vap, Sonia Somilar, Melissa Gill, Colin Tarbert, Sara Salizar, Chelsea Dean, Mie, Arthur, Noah, Nigel, John and Brian.

I especially wish to thank my family, Fran, Cait, Alison, Mom and Dad for their love and support throughout my journey seeking a degree in Architecture. I could never have done it without all of you.

TABLE OF CONTENTS

ABSTRACT	i
MEANING THROUGH USE: ADAPTIVE REUSE OF THE CHESAPEAKE AND OHIO CANAL IN GEORGETOWN	i
DEDICATION	iii
ACKNOWLEDGMENTS	iv
TABLE OF CONTENTS.....	v
LIST OF FIGURES	vii
CHAPTER 1: Georgetown, Washington, DC.....	1
SITE LOCATION	2
HISTORY OF GEORGETOWN AND THE C & O CANAL	4
LOCKS AND SLUICE GATES	6
PRIOR PLANNING STUDIES	8
CHAPTER 2: Theory.....	10
CHAPTER 3: Site Analysis	13
GEORGETOWN ANALYSIS.....	13
C & O CANAL ANALYSIS.....	23
SITE PHOTOS	32
SITE OF BUILDING	55

CHAPTER 4: Precedent Studies.....	56
BUILDINGS	56
WATERFRONTS IN URBAN CONTEXTS	59
STREET SECTIONS	64
CHAPTER 5: Program Analysis	66
URBAN CANAL PROGRAM	66
BUILDING PROGRAM	67
PROGRAM DESCRIPTIONS	69
CHAPTER 6: Design Approach	72
CHAPTER 7: Initial Partis.....	73
CHAPTER 8: Design Conclusions	80
APPENDIX 1: Georgetown Inventory of Historic Sites	91
BIBLIOGRAPHY	97

LIST OF FIGURES

Figure 1 Washington, D.C. Georgetown is highlighted.....	1
Figure 2 Aerial Photograph of Georgetown, the C & O Canal’s urban stretch is	2
Figure 3 Georgetown 1862 (Johnson and Ward Map, Library of Congress Website)	5
Figure 4 C & O Canal Lock #2 Habs DC Geo (Library of Congress Website)	6
Figure 5 Lock in action	7
Figure 6 Example of a Sluice Gate	7
Figure 7 Georgetown Street Grid.....	13
Figure 8 Georgetown Figure Ground.....	14
Figure 9 Walkability Diagram	15
Figure 10 Georgetown Significant Buildings	16
Figure 11 Public Transportation in Georgetown.	17
Figure 12 Maps of Popular Trails	18
Figure 13 Zoning Diagram.....	21
Figure 14 Topography of Georgetown	22
Figure 15 Retail, Housing and Office Locations	23
Figure 16 Hotel, Restaurant and Recreation Locations	24
Figure 17 “Nine to Five” Uses and “Empty” Buildings	25
Figure 18 Possible site locations / program changes	26
Figure 19 View Corridors to the Potomac	27
Figure 20 Lock Location.....	28
Figure 21 Sections along the Canal	29

Figure 22 Site Photos	32
Figure 23 Site Photos- Bridges	33
Figures 24 through Figure 38 Images along the canal by block.....	34 - 48
Figures for Climatic Data.....	49 - 54
Figure 39 Site Location.....	55
Figure 40 Sarphatistraat Offices	56
Figure 41 Butler's Wharf, St. Saviour's Dock, and River Commuter (Heller Website) ...	57
Figure 42 San Antonio Riverwalk Diagram	59
Figure 43 Arizona Canal Diagram.....	60
Figure 44 Hakata Canal Pictures (Gandel)	61
Figure 45 Hakata Canal Diagrams	62
Figure 46 Castro Street Section (Jacobs, Allan)	64
Figure 47 Amsterdam Canal Sections (Jacobs, Allan)	65
Figure 48 Balcony Parti	73
Figure 49 Arcade Parti	74
Figure 50 Stepping Stone Parti	75
Figure 51 Building Scheme One.....	76
Figure 52 Building Scheme Two	77
Figure 53 Building Scheme Three	78
Figure 54 Entertainment Programming	79
Figure 55 Figure ground of the C & O Canal and Genealogy Building	82
Figure 56 Site Plan of the Genealogy Center and its relation to the Church yard.....	82
Figure 57 Wisconsin Avenue Floor Plan.....	83

Figure 58 Canal Level Floor Plan.....	83
Figure 59 Mezzanine Floor Plan.....	84
Figure 60 Research Level	84
Figure 61 Wisconsin Avenue Elevation	85
Figure 62 Canal Elevation	85
Figure 63 Section Two.....	86
Figure 64 Section Three.....	86
Figure 65 Interpretive Sign along the Towpath	87
Figure 66 Interior Perspective of the Reading Room	87
Figure 67 Perspective from the Towpath.....	88
Figure 68 Perspective from the Wisconsin Avenue Bridge.....	88
Figure 69 Model from the Wisconsin Avenue Bridge.....	89
Figure 70 Model from Wisconsin Avenue.....	89
Figure 71 Model from the C & O Canal.....	90

LIST OF ABBREVIATIONS

B & O – Baltimore and Ohio

C & O – Chesapeake and Ohio

D.C. – District of Columbia

NHPA – National Historic Preservation Act

NPS – National Park Service

SHPO – State Historic Preservation Office

CHAPTER 1: Georgetown, Washington, DC

Georgetown is a designated historic district in the United States capital, Washington D.C. There are approximately 4000 primary buildings c. 1765-1940. It was established as a historic district by the Old Georgetown Act in September, 1950. It became a National Historic Landmark in May 1967. It is roughly bounded by Dumbarton Oaks to the north, Rock Creek Park on the east, the Potomac River to the south, and Archibald Park to the west (Historic Preservation website). An urban neighborhood surrounded by nature.

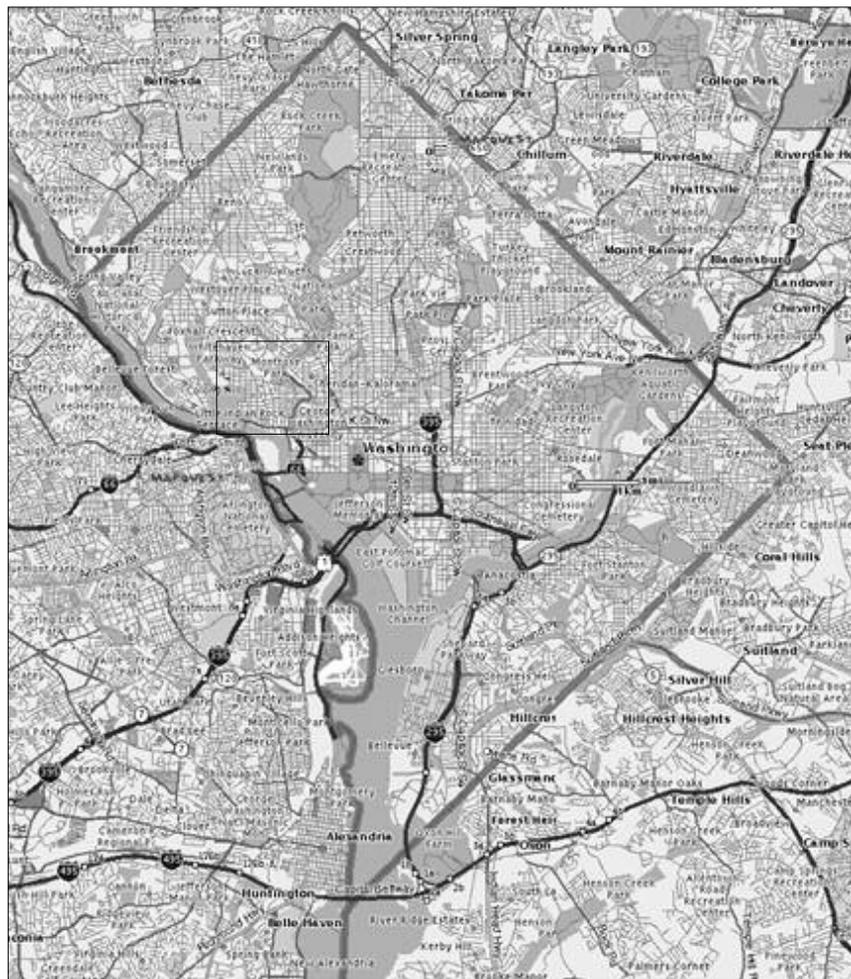


Figure 1 Washington, D.C. Georgetown is highlighted

Site Location

The site for this thesis is the first mile of the C & O canal, which runs through the southern edge of Georgetown.

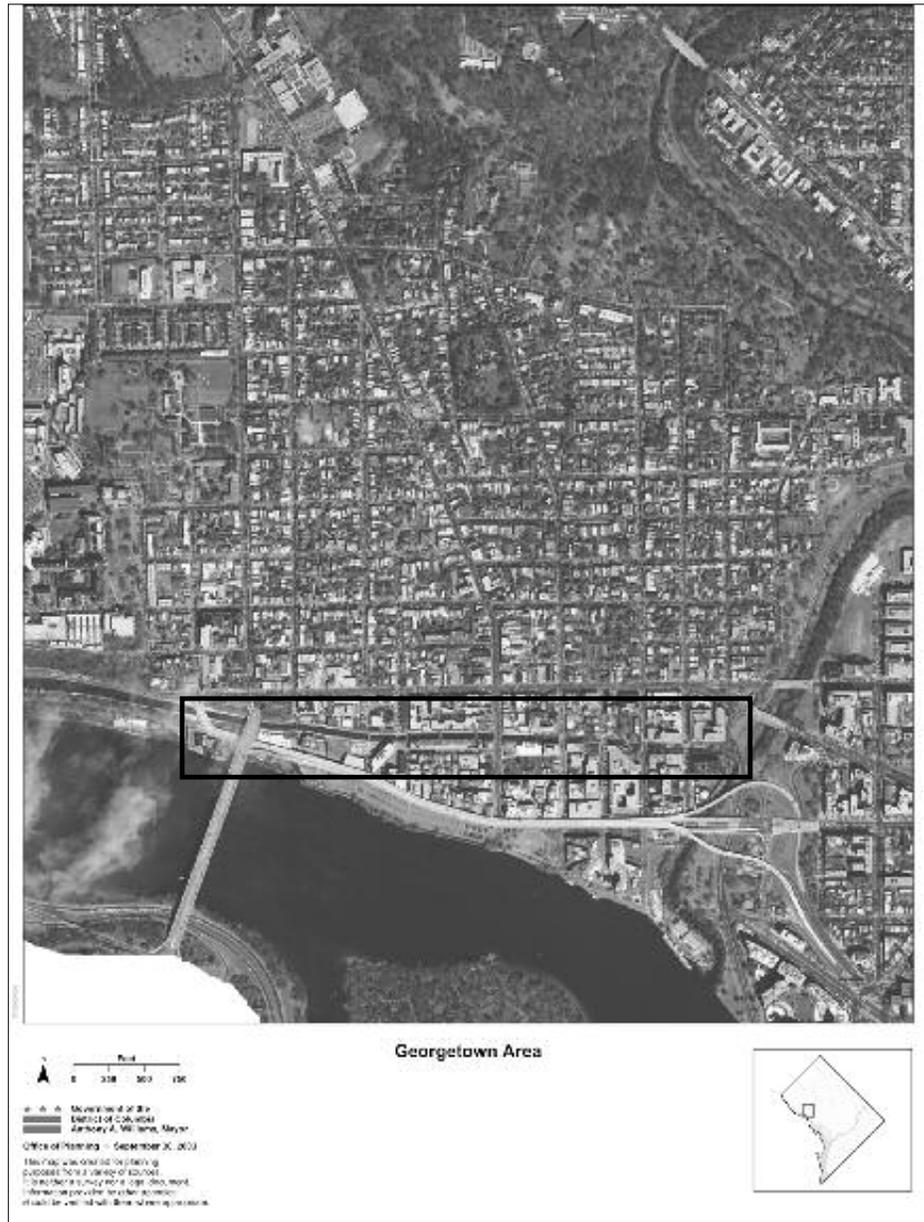


Figure 2 Aerial Photograph of Georgetown, the C & O Canal's urban stretch is highlighted.

Georgetown is comprised of mostly row houses of differing square footages, allowing for a fairly diverse population. Georgetown University lies on the western edge and its influx of students intensifies this already lively neighborhood. The two busy retail streets, M Street and Wisconsin Avenue, cross south of the geographic center, alluding to Georgetown's early reliance on the waterfront. Just south of M Street is the C & O Canal, a National Historic Landmark, which is almost desolate in comparison to the rest of Georgetown. Most of the buildings that line the canal have their backs to the water. Many of the buildings are considered historic, their original uses directly dependent on the canal; but over time they have forgotten the canal. Recently new construction has made small gestures towards the canal but a more aggressive approach is necessary. Many people are unaware of the canal. Some know the canal from their one-time ride on the canal boat run by the National Park Service. It is no longer a vital part of Georgetown's existence.

The juxtaposition of this "low" technology employing the natural properties of water, and the twenty-first century population is intriguing. While Georgetown successfully harmonizes historic architecture with modern life, the original "reason for being" is obscured. By placing a new value on the canal, increasing the feeling of security and fostering public interaction the C & O Canal can once again enjoy an a prominent place in the urban fabric.

History of Georgetown and the C & O Canal

The earliest settlers of the area just west of Rock Creek and along the Potomac River are the Nacotchanques (also named the Anacostians) of the Algonquin Nation. They lived on cultivated farms, employed canoes and manufactured many types of stone tools from their quarries in the vicinity. It is believed that other tribes traveled from far away to trade with the Nacothankes, establishing the area now known as Georgetown as a place of commerce from the beginning (Ecker, p. 4).

In 1751, present day Georgetown began to take shape, initially as a tobacco port. A desire to link this significant port with cities along the Ohio River grew, as did the town, and the Chesapeake & Ohio Canal was conceived to bypass the un-navigable Potomac River. Though this was originally George Washington's dream, the lack of funding and the daunting technological effort required delayed its inception and it was not begun until 1828. The map below shows Georgetown in 1862. The importance of the waterfront is evidenced by the many streets, which cross the canal and connect Georgetown to the Potomac. The major commodities shipped along the canal were coal, ice, wheat, and lumber (Hahn, p.20). By the 1830's flour and paper mills were built along the waterfront to harness the waterpower generated by sluice gates and the 35' vertical drop between the canal and the Potomac. The height of the canal's prosperity occurred during the early 1880's but it was short lived. The Baltimore and Ohio Railroad, which held a majority of canal bonds, took advantage of the damaging flood of 1889. Repairs were made slowly. Business along the canal began to wane and by 1924 the canal was closed.

The character of Georgetown changed as well. Streetcar lines were built connecting Georgetown to Rockville, Alexandria and Washington City, which encouraged the retail growth on M Street (Smith, p. 31). Along the waterfront though, the once thriving seaport in the late 1800's was much more industrialized by the 1920's. "Smokestacks had

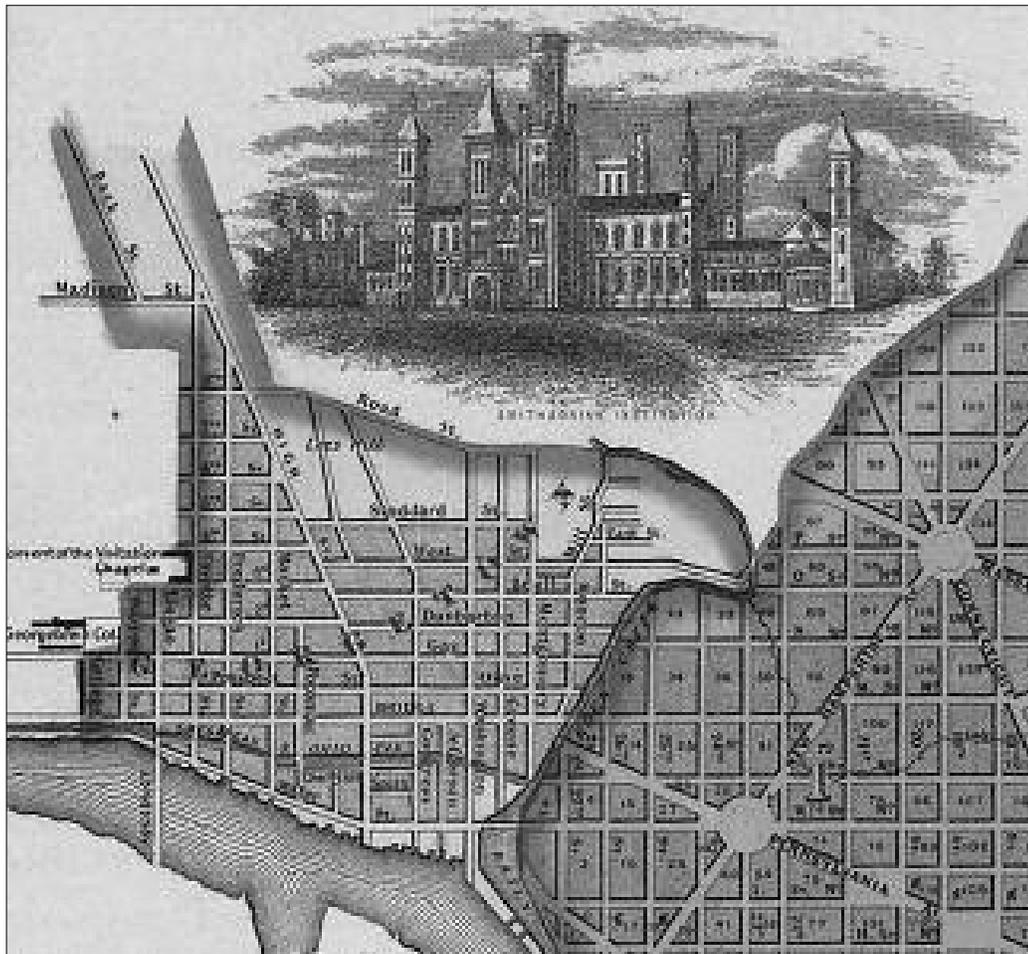


Figure 3 Georgetown 1862 (Johnson and Ward Map, Library of Congress Website)

replaced ships' masts on the skyline" (Smith, p. 2). Another factor contributing to the decline of the waterfront was the fact that the B & O Railroad decided to connect Baltimore with Southwest D.C. but not Georgetown and the once prosperous grocery business suffered. Congress' authority over Georgetown complicated matters by impeding their transportation solutions (Smith, p. 7).

Georgetown managed to survive and today it is not only a dynamic neighborhood of DC but it is a remarkably intact example of a complete historic town. Wisconsin Avenue and M Street are still the lively retail centers they once were but this is in stark contrast to the condition of Georgetown's original reason for being, the port and canal.

Locks and Sluice Gates

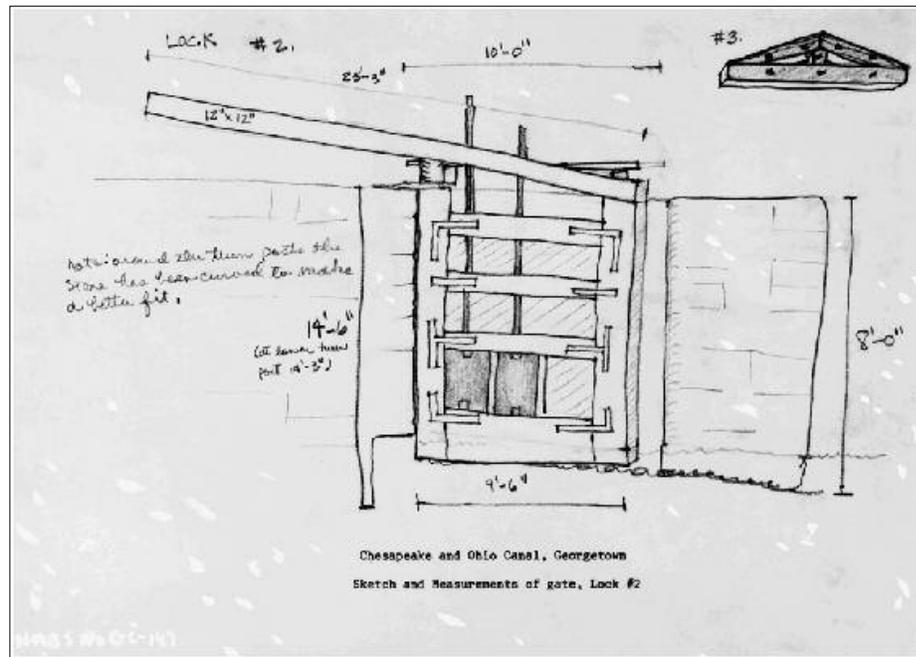


Figure 4 C & O Canal Lock #2 Habs DC Geo (Library of Congress Website)

The series of locks along the canal act as an elevator for boats, lifting and lowering them to different elevations as necessary. Each lock moves the boat about 10 feet in elevation. The locks work by sectioning off a stretch of the canal with wooden gates. A boat is towed by mule into one section of the canal and the gate behind is closed. The gate in front allows water to enter (or drain) via timber shutters, known as “paddles”, and equalizes the water level with the next section and the boat is lifted (or lowered) A reservoir is necessary to provide the excessive water used by the canal. Moving one boat

down and one up with the same “lock movement” is the most efficient use of water but it takes a longer time (Harris, p. 74). On the C & O canal the locks are manually maneuvered and the completion of one lock takes about 8 minutes, utilizing 100,000 gallons of water (NPS).

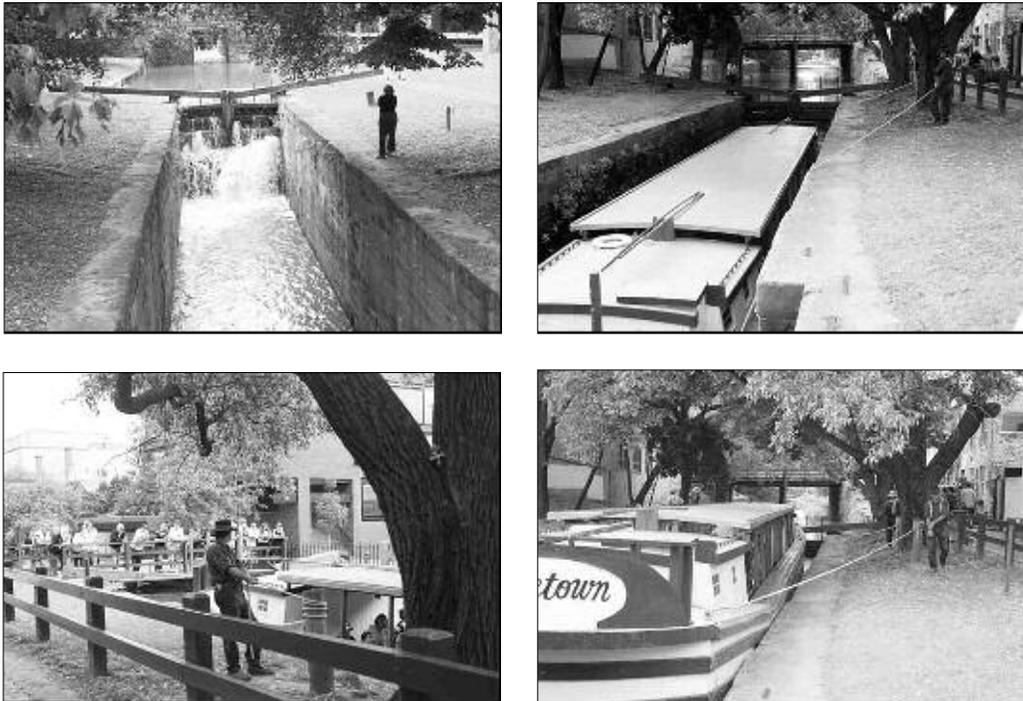


Figure 5 Lock in action



Figure 6 Example of a Sluice Gate

Sluice gates are spurs off of the canal, which take advantage of the change in elevation between the canal and the surrounding area. The power generated by gravity fueled water can be harnessed. In Georgetown flour and paper mills were powered by the C & O canal in the 1800's.

Prior Planning Studies

The 1975 Georgetown Waterfront Area Study

This study considered the proposed “Potomac River Freeway” which was to connect downtown DC with the Key Bridge. Goals established were:

- Preservation and strengthening of Georgetown as a viable community within the District of Columbia
- More efficient accommodation of traffic moving through the area
- Preservation and enhancement of those qualities of Georgetown which justify its designation as a Registered National Landmark
- Enhancement of scenic vistas of the Potomac River, parks and monuments as views from Georgetown (Georgetown Planning Commission, p. 12).

Boathouse Issue

Currently there are three main boathouses in use along the Potomac River in the Georgetown area. They are public but Georgetown University and George Washington University use them as well. Both Universities are looking to build their own boathouses and the public also needs a new, more modernized, boathouse. Georgetown University’s proposed boathouse, to be located to the west of the Key Bridge, has been greatly contested. They are seeking a land swap with the National Park Service to locate the boathouse near the bridge instead of on the land the University currently owns about a mile west of the bridge. The proximity of the new location to the bridge is being debated due to its possible

detrimental effect on the views when entering Georgetown from the C & O trail. The University states that it will be a better solution than building far up river with the accompanying access road to it. The boathouse could be a mark the entry to Georgetown as well. If possible though, the best location for all three desired boathouses is in the zone along the Potomac, to the east of the bridge, just south of the canal. An under utilized parking pad currently occupies the site (see figure 17). By infilling this zone with boathouses the urban fabric extends from Georgetown all the way to the water's edge and it does not leak out past the Key Bridge, keeping the area beyond more pastoral. The boathouses would stimulate more pedestrian activity in the north-south direction encouraging views of the canal as well.

Whitehurst Freeway Removal

Joe Passoneau, a noted highway designer, has lobbied for the removal of the Whitehurst freeway for years. His design "An Avenue Depressed at Wisconsin" re-invents K street as the freeway, depressing it to pass underneath Wisconsin Avenue. Wisconsin Avenue would still enjoy its direct connection to the waterfront and the visual link from the other north-south streets would be greatly enhanced.

CHAPTER 2: Theory

There are many different approaches to historic preservation from the easily understood “museum” approach to the abstract preservation of a memory or ritual. Museum quality preservation is the commonly anticipated method where the object being preserved is restored to its original pristine condition. Often extensive research and educated conjecture is necessary to achieve this type of preservation. This is an appropriate manner of preservation for high profile, architecturally spectacular buildings such as the Library of Congress (Moore, p. 50). Another area where this approach could be well employed is when significant meaning is derived from the specific condition of a structure such as slave quarters or pioneer homes. Some problems arise when taking this approach to historic preservation though. This can lead to a “fantasy” of history, an unblemished state that never really occurred (Wallace, p. 10). The potential for error and hidden biases are increased as well. Another difficulty is the fact that realistically we can not, nor do we desire, to preserve everything. Each generation must be allowed to add their own layer of history.

This thesis focuses on the significance of adaptive reuse. Uses change, buildings are reconfigured, and the patina of age is allowed to show, creating a richer environment (Moore, p. 55). This allows a new generation to become part of the time continuum, and creates a *living* history. Much thought is necessary to conceive a meaningful adaptive reuse. When designing an adaptive reuse, David Lowenthal states we must first know our own biases: we *will* change structures over time. The issue becomes *how* will we

change them? (Lowenthal). What do we keep and why? This project acknowledges the historic status of the C & O Canal and seeks to reconnect the public to it in a new way. Its use as a hiking and biking path beyond Georgetown is successful. Here the opportunity to enjoy the natural landscape is well utilized. It is the urban connection that is missing and the intersection of built and natural is left inanimate. The fact that Georgetown is the origination of the canal exacerbates this deficiency.

Adaptive reuse can bring the *change* in values and the culture more into focus for future generations as well. By applying a new use to a structure it is easier to understand these value changes, or perhaps more interesting, see the similarities we still share with our predecessors. Contextual information is important to reading a landscape; it allows for greater understanding but means looking at a much larger picture than one building can possibly show (Lewis). By tackling the first mile of the C & O canal this adaptive reuse in Georgetown can be more meaningful than the reuse of one “lonely” historic building somewhere else.

The material and workmanship of the canal and the adjacent buildings are values worth preserving and passing on to the future. The use of natural light and ventilation in old construction is gaining renewed interest today. Sustainability is a contemporary issue but it was a way of life previously. The interaction with nature needs not be relegated to the trails outdoors but can be manifested in the building too. When it was first built the canal represented the American dominance over the landscape, now the urban canal can represent the American desire to live more symbiotically with nature. Another value to

explore is the understanding of past technologies. The canal was a means of connectivity before the ubiquitous use of trains, automobiles and airplanes. Traffic is a constant concern today. Many are beginning to look at public transportation, living within walking distance of work and commuting by bicycle as an answer to this problem. The site chosen for this project could become a center for transportation, a place of transition for commuters using alternative means. While this idea would connect people to the canal it would still have limited use, a limited population and time period. If the site became a more encompassing center it would appeal to a broader population and have more consistent use.

A genealogy center would give people the opportunity to have a more interactive experience with Georgetown's history. Populations not currently associated with Georgetown were integral to the formation of the town as we know it. Many people could find direct links to Georgetown's history, increasing their sense of belonging to the town. Other patrons could learn about Georgetown or employ the center as a link to similar centers searching for their own family history and personal sense of belonging. This project seeks to be a unique moment in the city. A place where people can reconnect with Georgetown's history, urbanity and nature.

CHAPTER 3: Site Analysis

Georgetown Analysis

The street grid, figure below, shows the regularity of the streets in Georgetown and the size of the blocks, which are pedestrian friendly. This diagram also shows the breakdown of the connections to the water. Compare the figure below to the map of Georgetown in 1862 (figure 3) shown earlier. The Whitehurst freeway truncates the relationship between Georgetown and the waterfront. Seven streets continued to the Potomac previously but today only Wisconsin Avenue and 35th street make the connection. In addition, while nine streets crossed the canal in 1862, only five pedestrian friendly streets do currently and all are at the eastern end of the canal. The Whitehurst freeway and Key Bridge cross at the western edge of Georgetown high above the canal and Potomac.

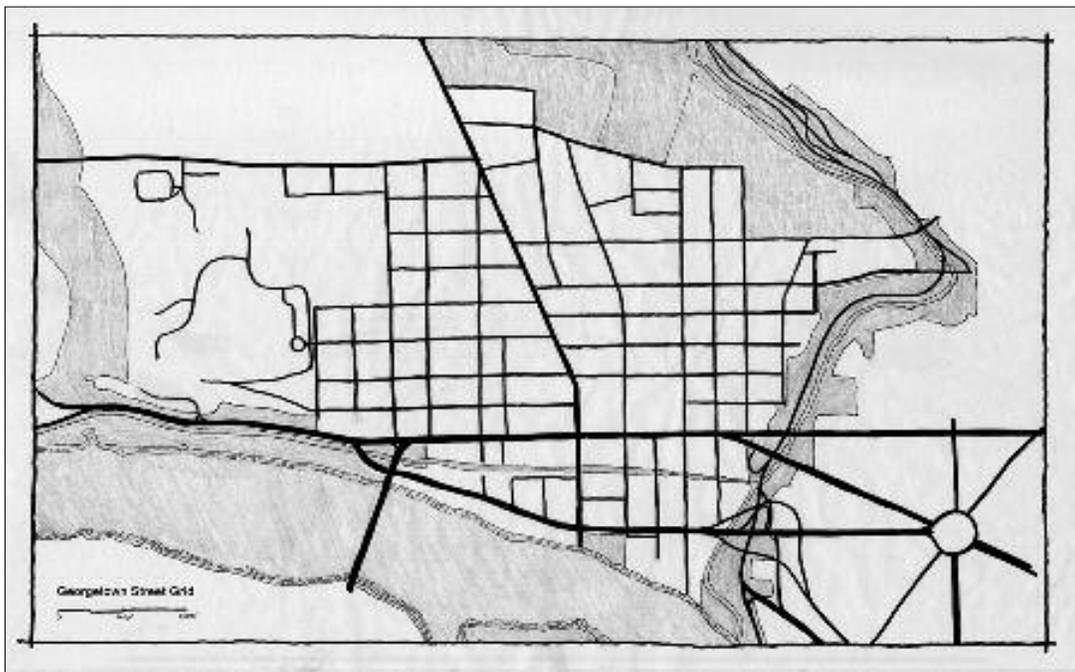


Figure 7 Georgetown Street Grid

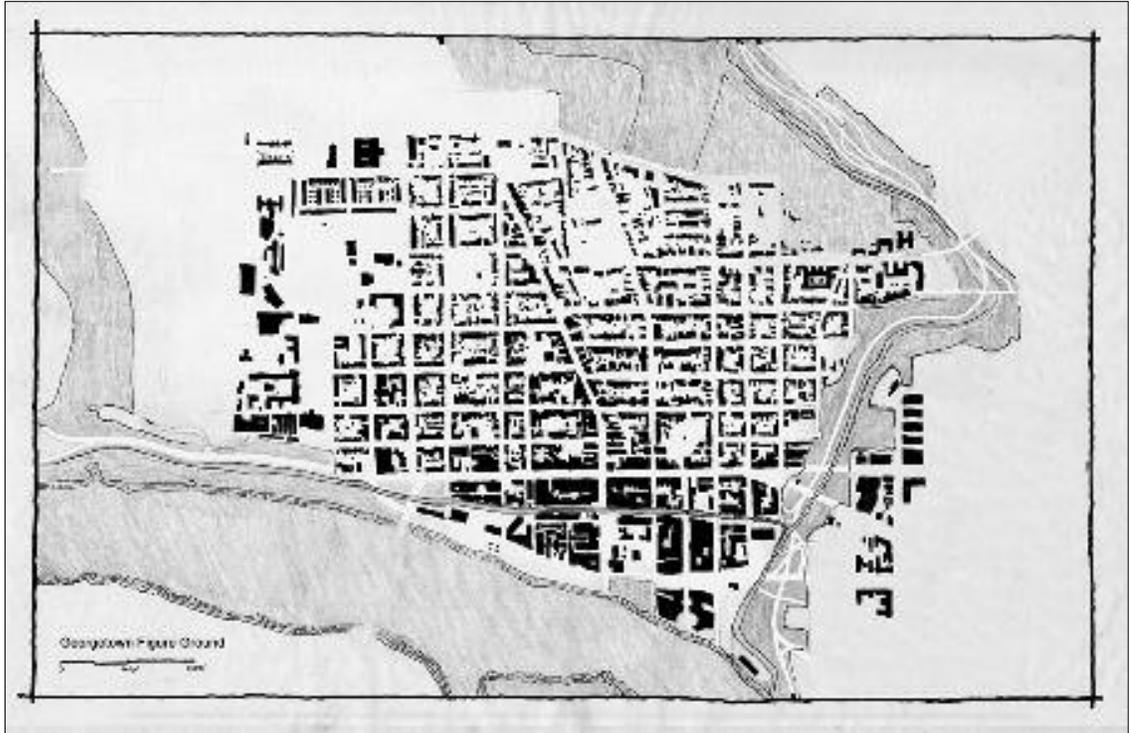


Figure 8 Georgetown Figure Ground

Georgetown has a very regular, fine grain urban fabric throughout most of the neighborhood. Along the canal and to the south the buildings are larger but still tightly knit.

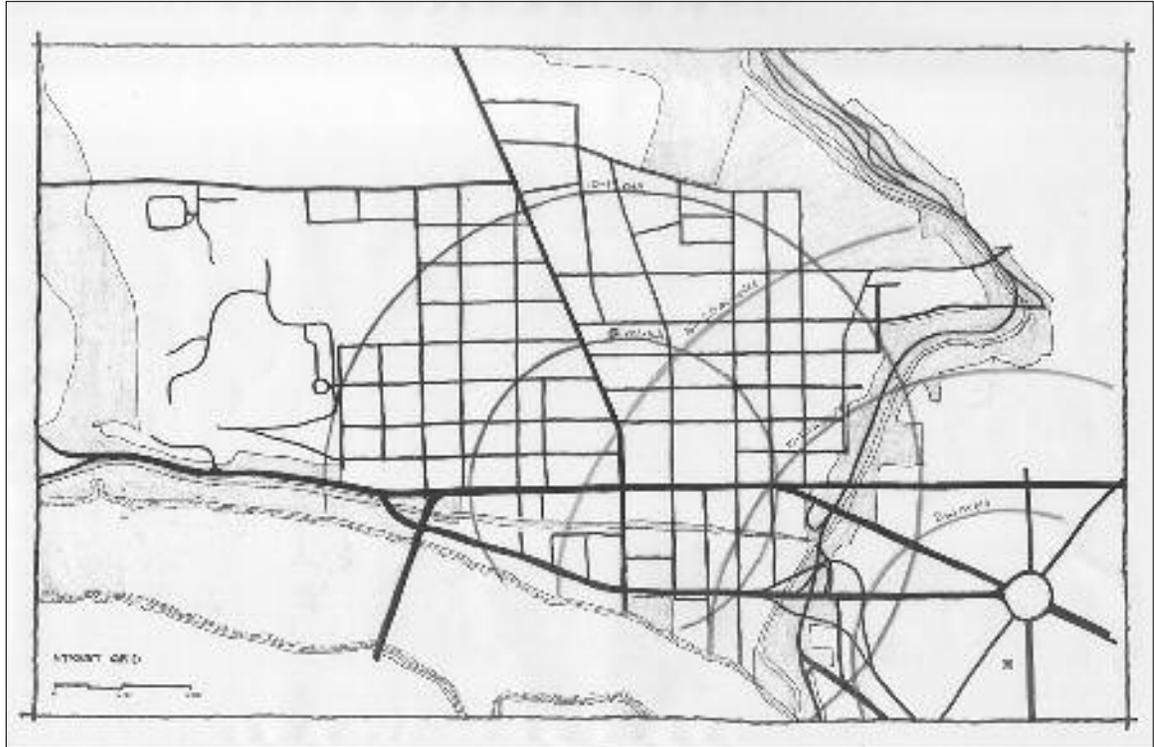


Figure 9 Walkability Diagram

Georgetown is extremely pedestrian friendly. From the intersection of M Street and Wisconsin Avenue one can walk to anywhere in Georgetown in about 15 to 20 minutes.

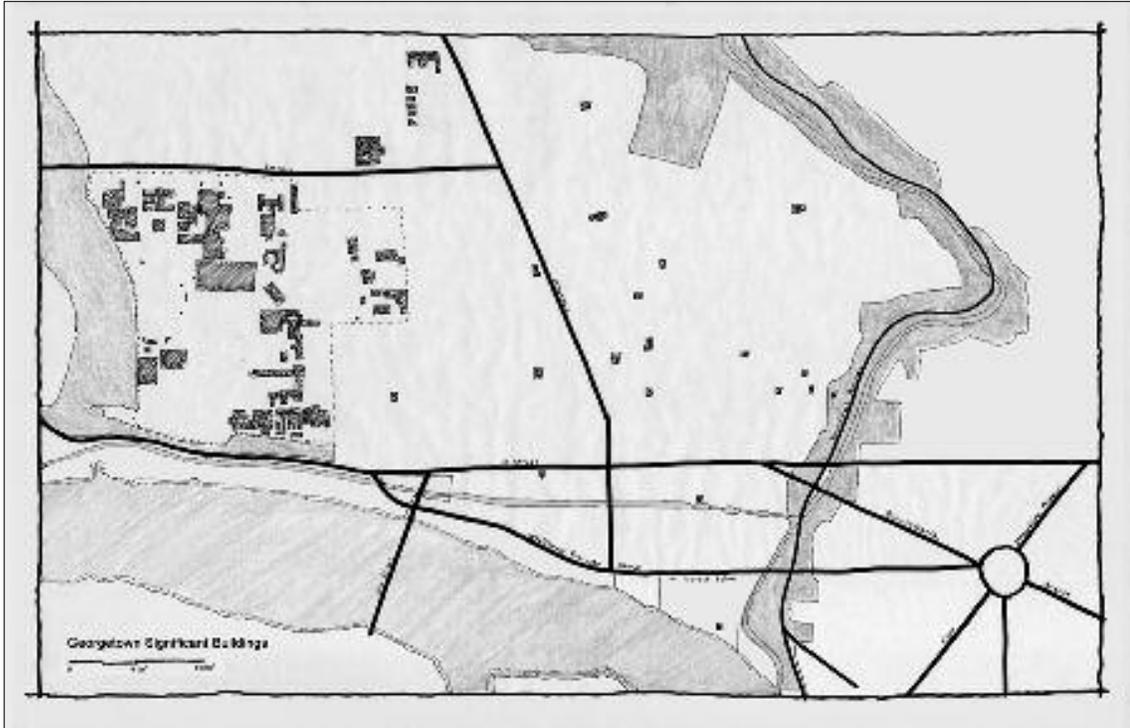


Figure 10 Georgetown Significant Buildings

Georgetown University is on the western edge, Duke Ellington School is to the north, and the school of Arts is to the north along Wisconsin Avenue.

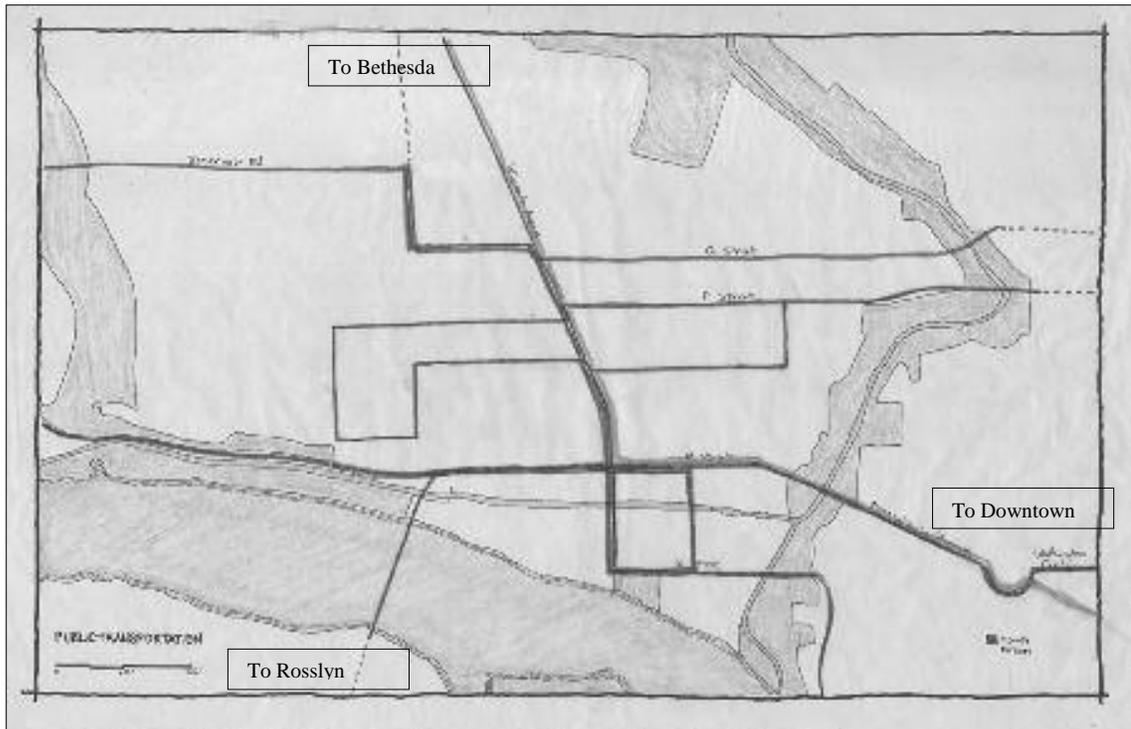
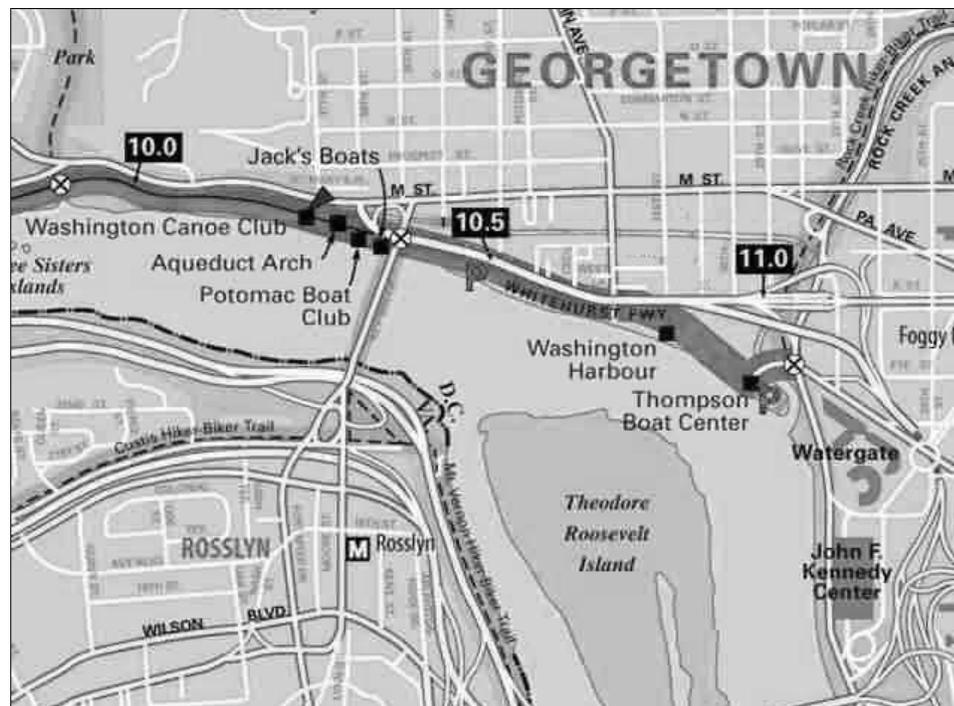


Figure 11 Public Transportation in Georgetown.

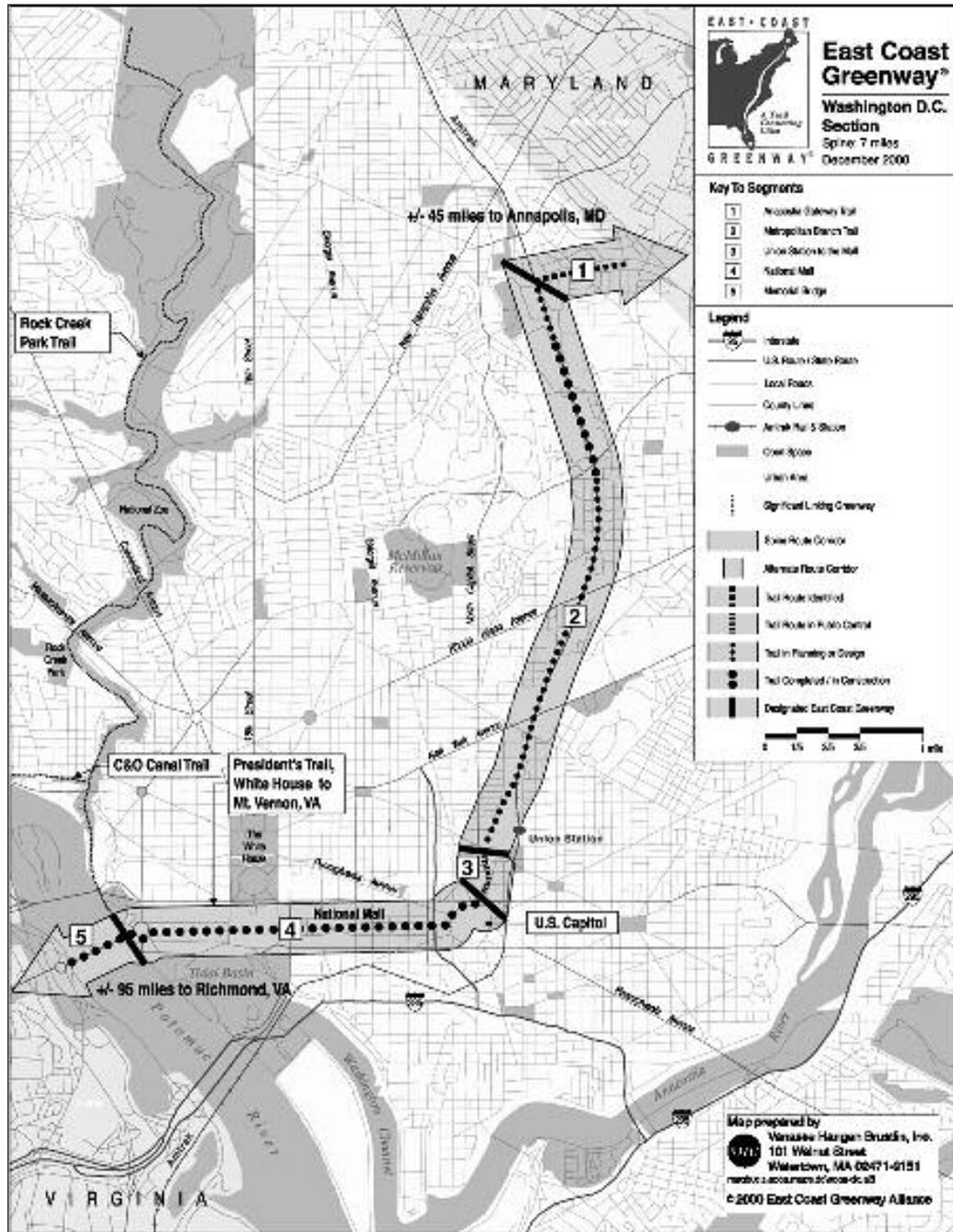
The bus system is centered on the intersection of Wisconsin Avenue and M Street. The diagram above shows the bus routes in Georgetown and the proximity of the nearest Metro station, Foggy Bottom. Georgetown is linked by bus to nearby suburbs, Rosslyn Virginia, and Bethesda, Maryland as well as downtown. The principal activity occurs at the intersection of M Street and Wisconsin Avenue. The bus lines do not connect directly to the Foggy Bottom Metro station. In the 1970's Georgetown opted not to be connected with the Metro. The result is inconvenience for commuters, and subsequently lower office rents as well. Traffic can be so snarled that on a weekend afternoon a trip from the Key Bridge to Rock Creek Park, less than one mile, can take forty-five minutes. Police directing traffic at M and Wisconsin provides a quick fix.

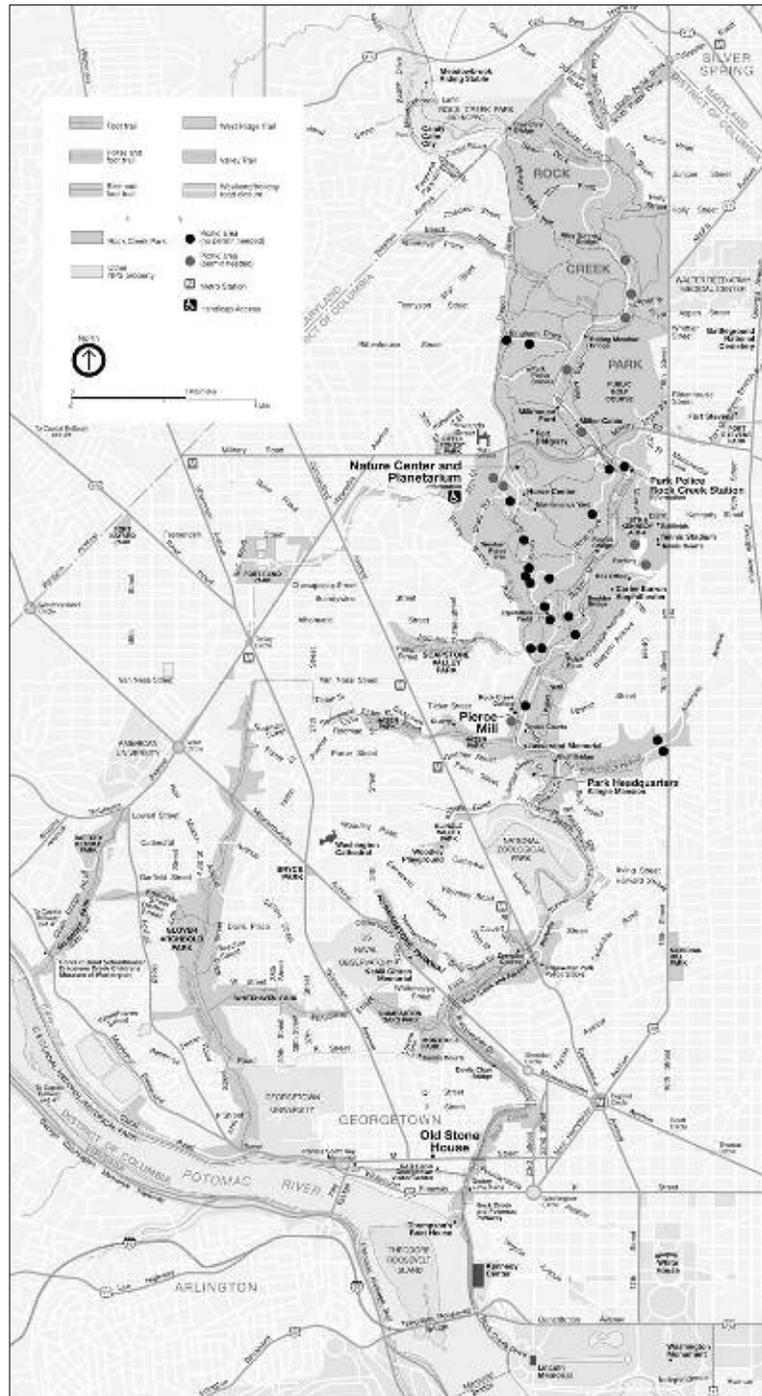
The following figures are maps of popular trails in the C & O canal's vicinity. The Capital Crescent Trail has recently finished its connection to Rock Creek Trails near Silver Spring, the origin of the trail. Note the Crescent trail bypasses the canal through Georgetown in favor of the Potomac River, the urban connection is lost. The East Coast Greenway is a developing trail, which seeks to link the entire East Coast with trails. It ties all components of the transect from rural to urban together.

Figure 12 Maps of Popular Trails



(<http://www.cctrail.org/>)





<http://www.nps.gov>



Figure 13 Zoning Diagram

The density is higher along the canal and it is mixed use, commercial/offices and housing. Georgetown University is on the western edge of the neighborhood. Retail is centered along Wisconsin Avenue and M Street.



Figure 14 Topography of Georgetown

The topography is fairly steep in Georgetown, dropping about 100 feet from the northern edge of Georgetown to the Potomac River. The canal itself is approximately 30' above the river.

C & O Canal Analysis

The Canal is approximately 3400 feet long and 50' wide between Key Bridge and Rock Creek. It narrows to 20' at the locks.

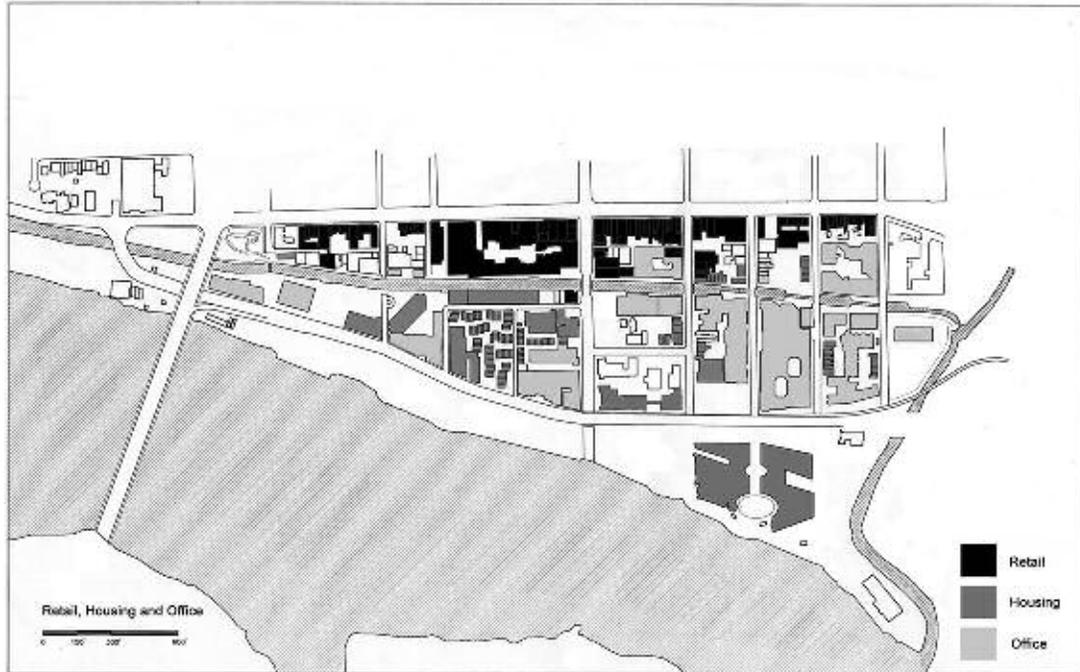


Figure 15 Retail, Housing and Office Locations

Retail is located primarily along M Street. North of the C & O Canal is a mix of retail, office and housing. The large retail building north of the canal and west of Wisconsin Avenue is the Georgetown Park Mall. As with most malls, this building is focused inward. It does make a small gesture to the canal with a modest entry to the towpath. The Mall also has housing above and connects to the Canal House Apartment building on the south side of the canal. The land use south of the canal is bisected by Wisconsin Avenue, to the west is housing and to the east is predominately office.

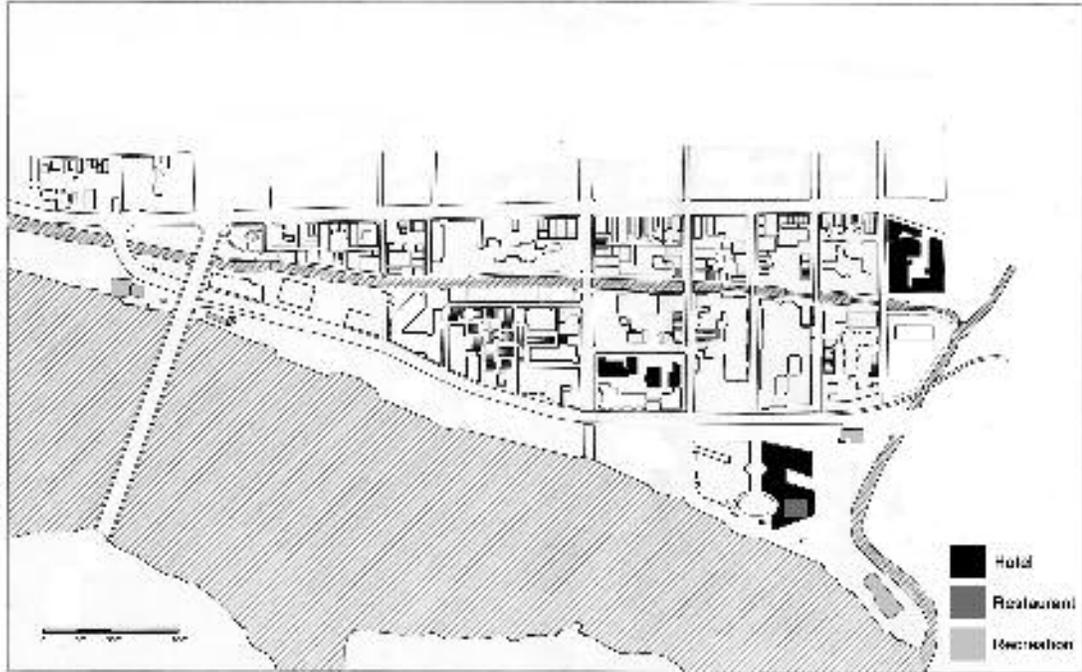


Figure 16 Hotel, Restaurant and Recreation Locations

There are two large hotels and many restaurants in the vicinity. Recreational areas are located along the Potomac.

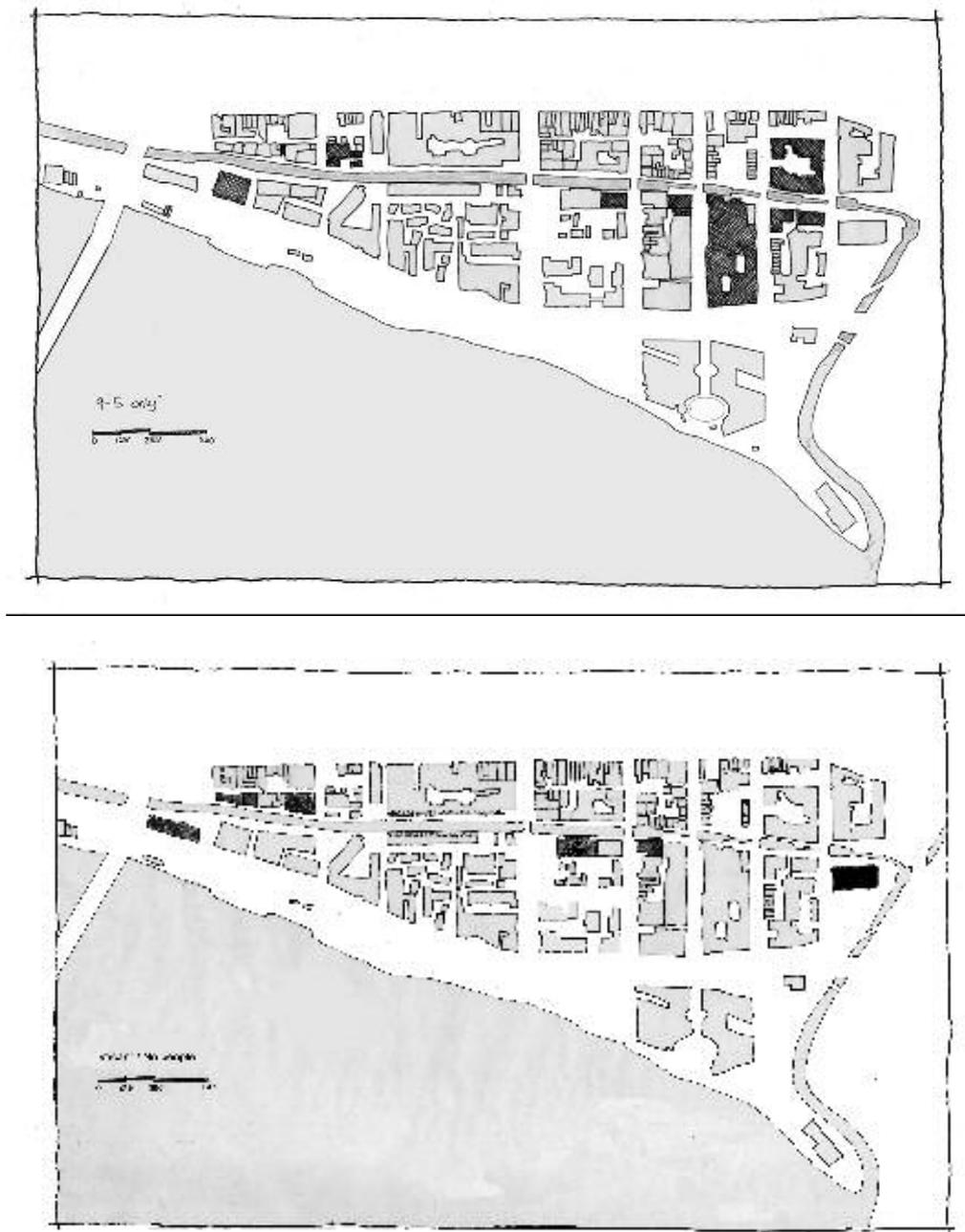


Figure 17 “Nine to Five” Uses and “Empty” Buildings

Along the canal the traditional office buildings are only in use during business hours.

They create voids at other times. Coupled with the vacant buildings, buildings housing only machinery and blind facades, the canal has very little conjunct activity.

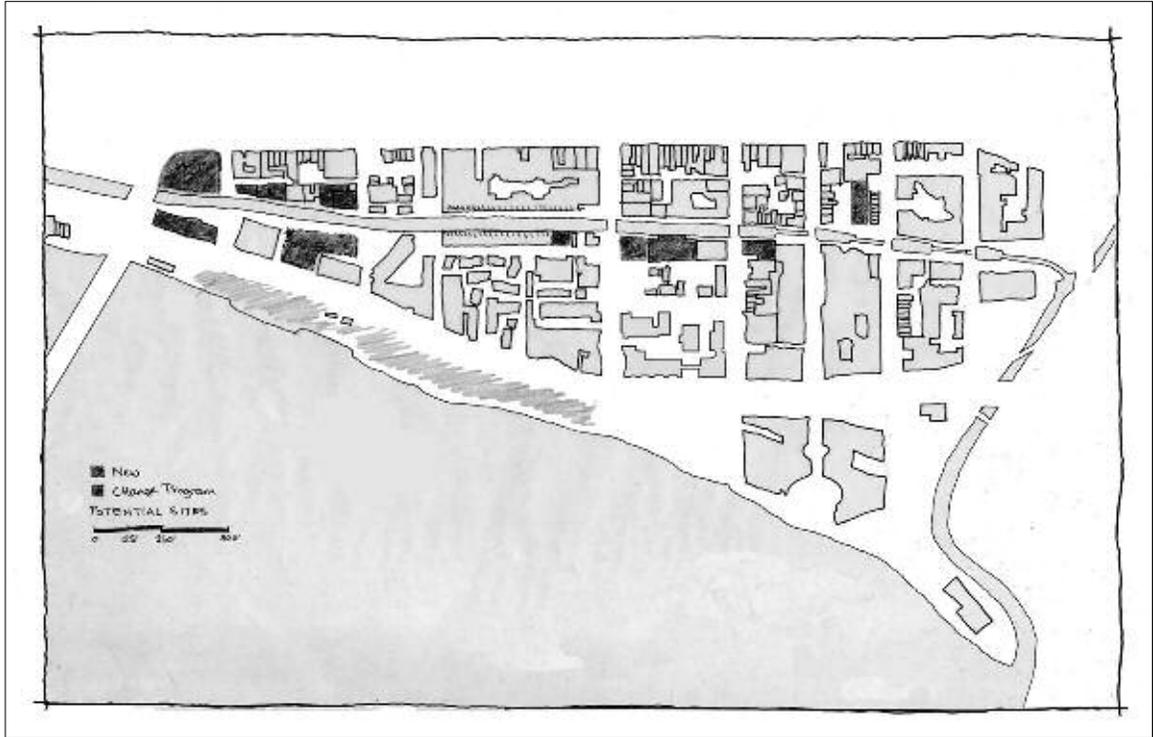


Figure 18 Possible site locations / program changes

The figure above shows the empty lots and potentially viable buildings for site consideration. Changing the current programming or reworking the façade may be the most suitable course of action for some of these locations. The zone along the Potomac River west of Wisconsin Avenue is a very large parking pad. Despite the location it is not that well used.

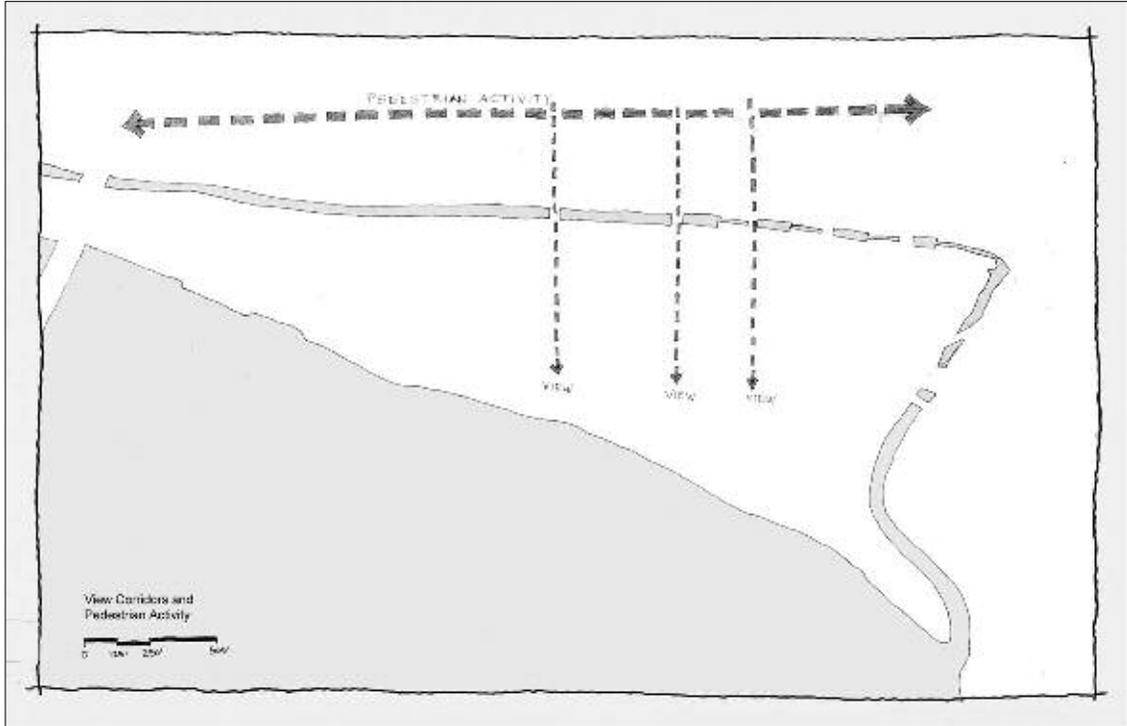


Figure 19 View Corridors to the Potomac

The primary location of pedestrian activity is along M Street. When crossing Wisconsin Avenue, 31st Street and 30th Street one can see the Potomac River though the Whitehurst Freeway is a bit distracting. View corridors are important to encourage people to explore the waterfront. By eliminating the Whitehurst Freeway the views are strengthened and the link to the water is enhanced. Encouraging people to walk past the canal in a North-South direction is advantageous to this project.

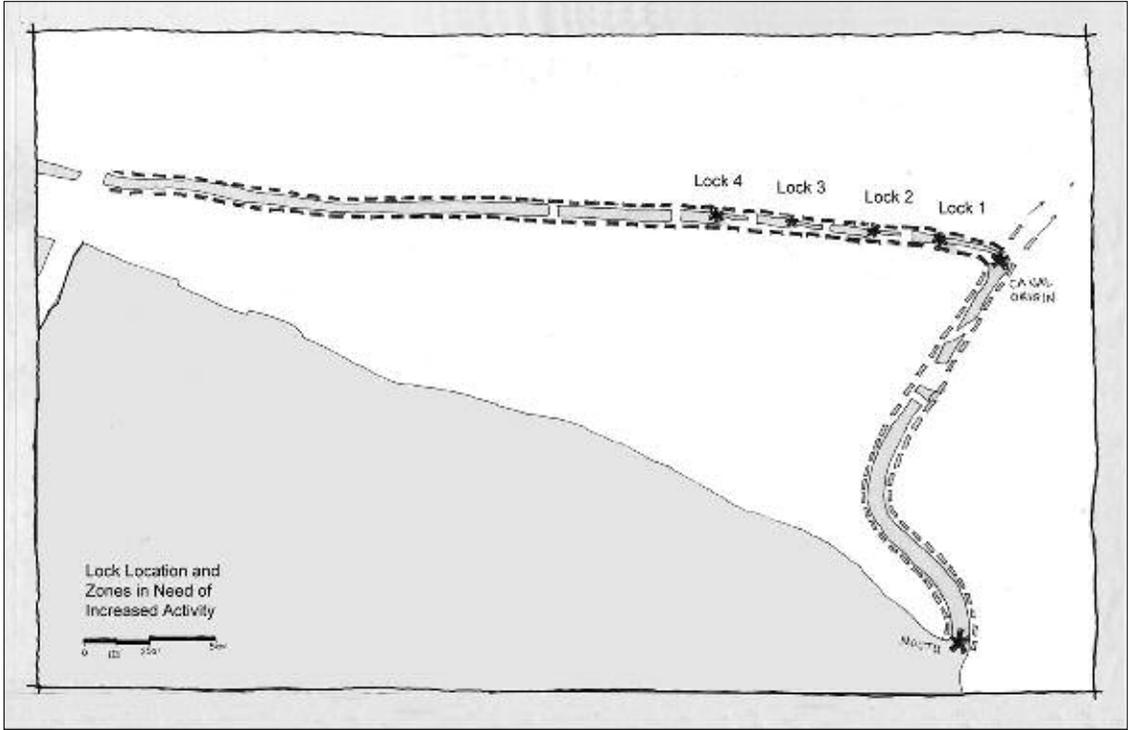
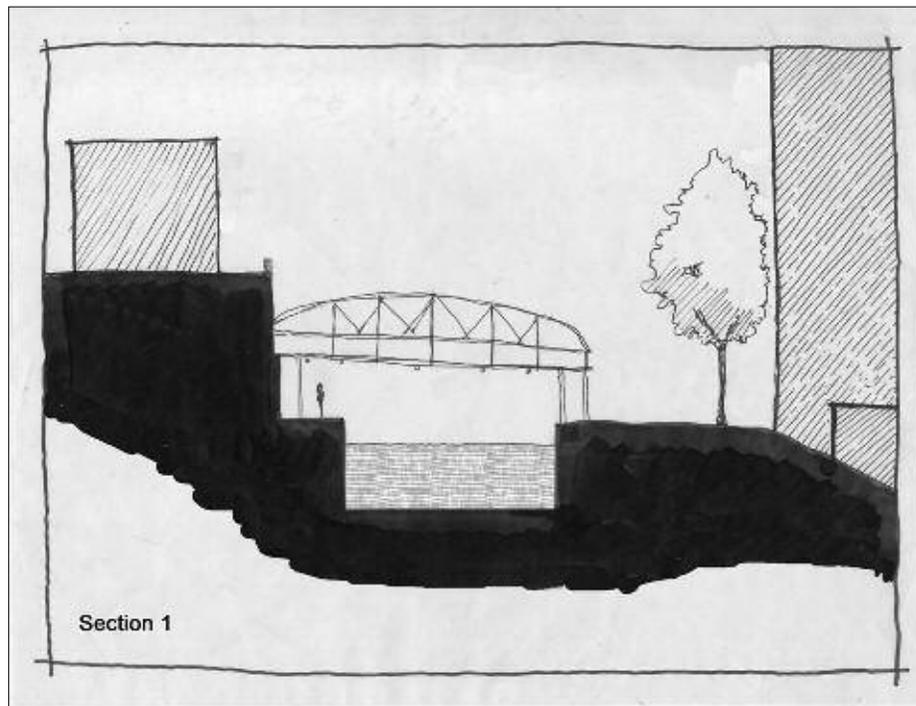
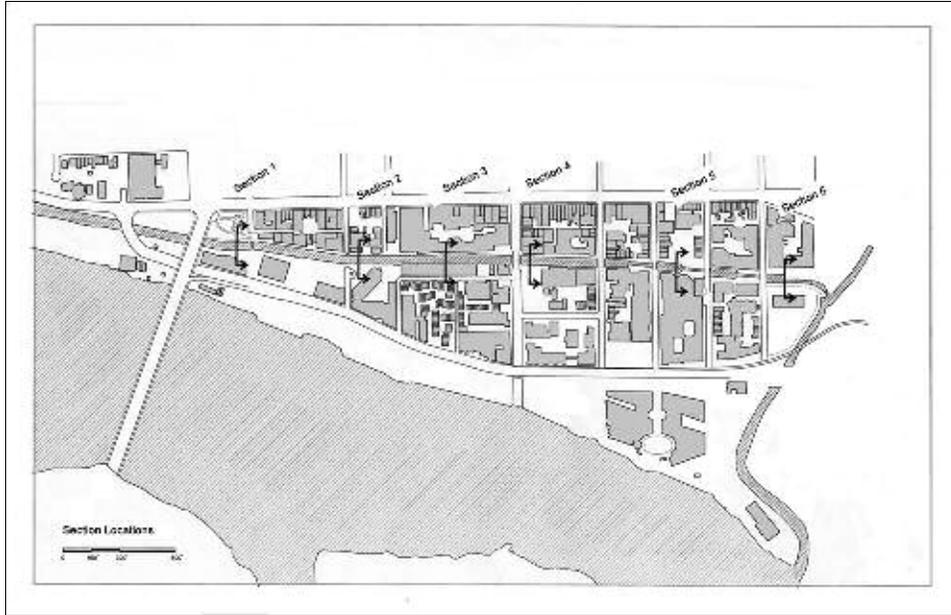
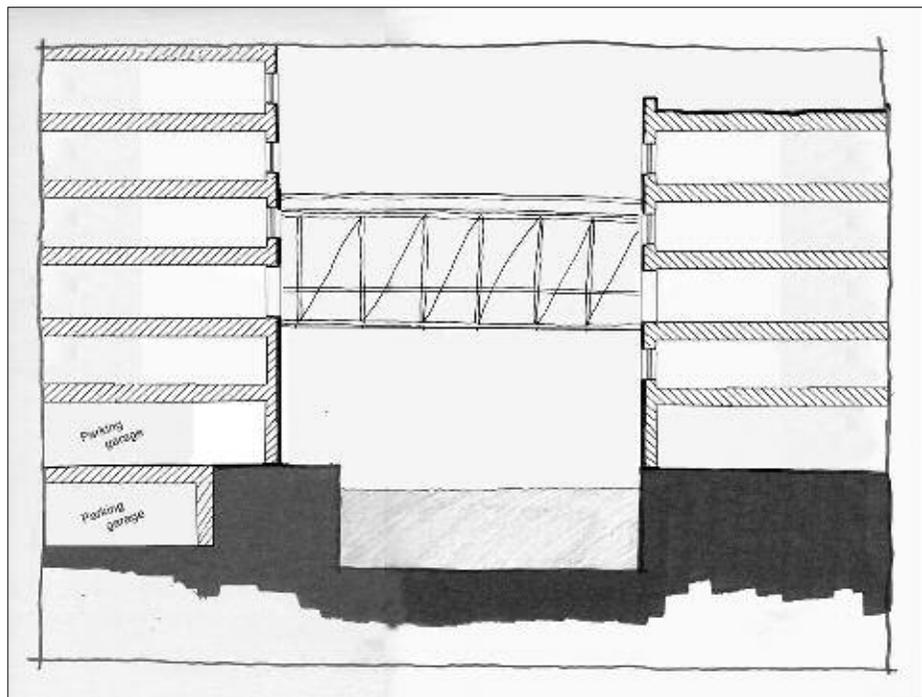
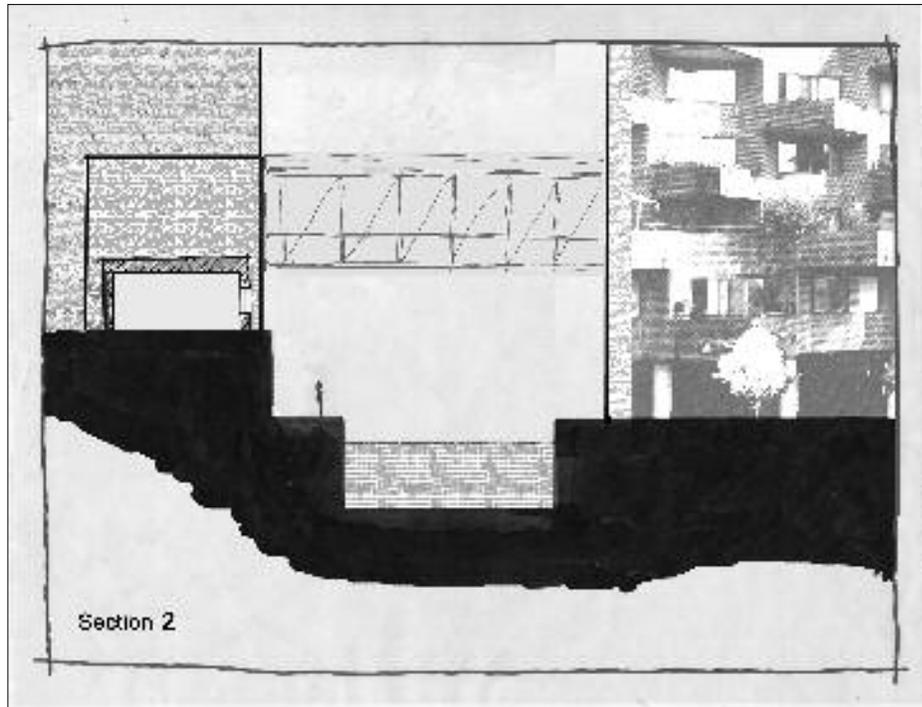


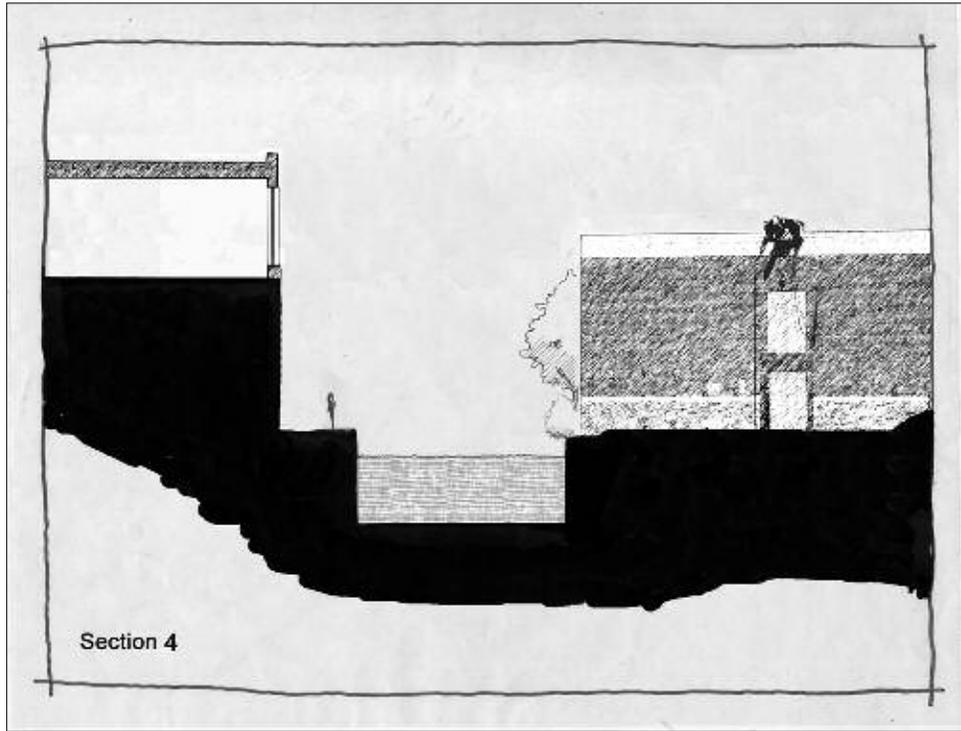
Figure 20 Lock Location

The locks are important elements to the canal. This technology is what allows the canal to function. All of these locks are working and the NPS runs canal boats through lock number 4 twice a day, three seasons of the year. Coincidentally, the lock locations coordinate with the view corridors noted in figure 16.

Figure 21 Sections along the Canal







Site Photos



Figure 22 Site Photos

The top photo depicts the Ritz Carton Hotel and condos on South Street. The incinerator stack is in the background. The bottom left photo is a view of the path and rowhouses on block five north (see figure 30). The bottom right is historic Grace Episcopal Church at the corner of Wisconsin Avenue and South Street.

Figure 23 Site Photos - Bridges



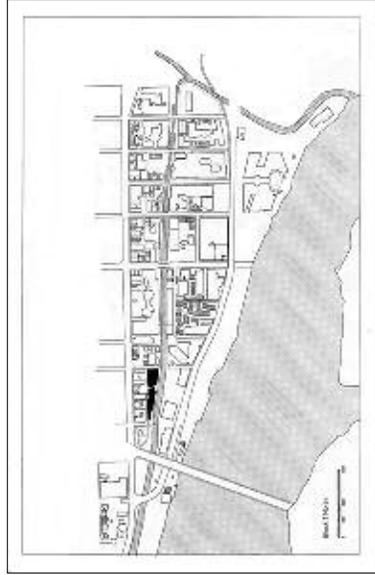
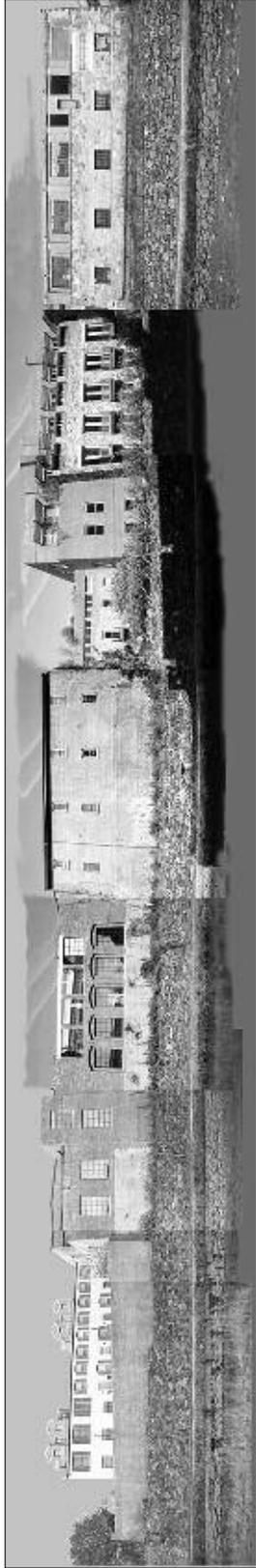


Figure 24 Block 1 North



Figure 25 Block 2 North



Figure 26 Block 3 North



Figure 27 Block 4 North

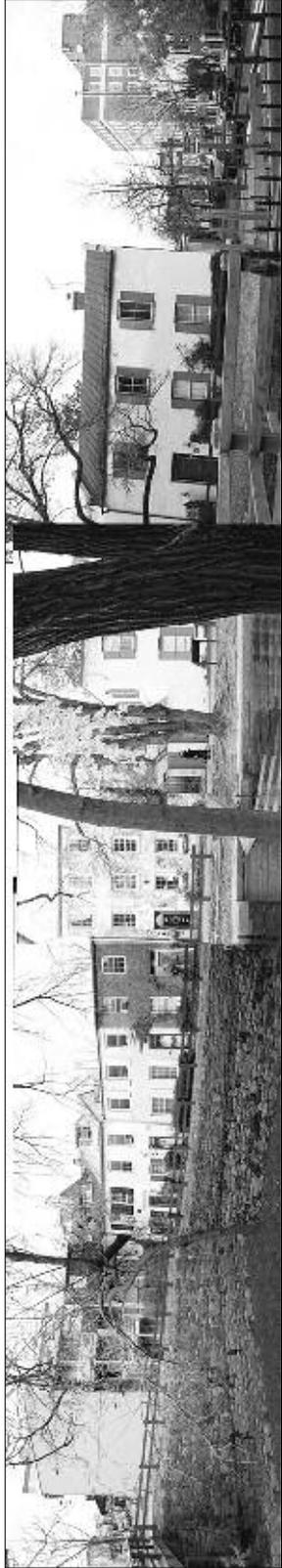


Figure 28 Block 5 North



Figure 29 Block 6 North

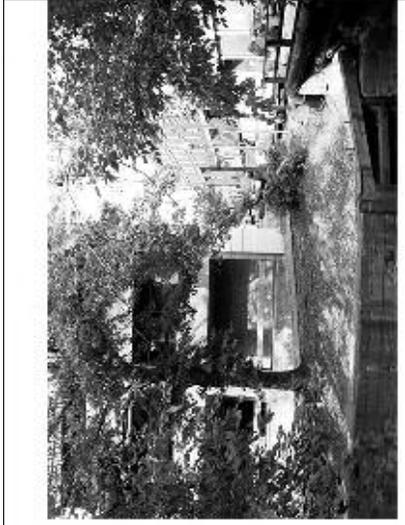


Figure 30 Block 7 North



Figure 31 Block 8 North

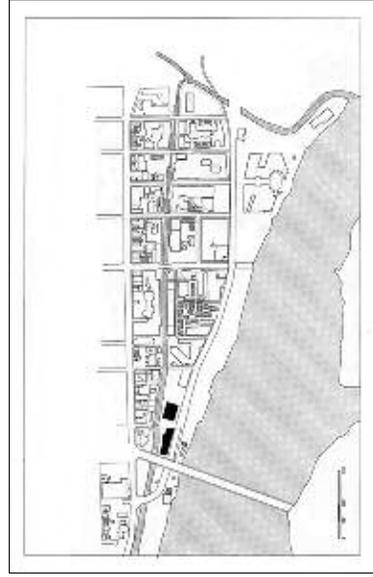


Figure 32 Block 1 South



Figure 33 Block 2 South



Figure 34 Block 3 South

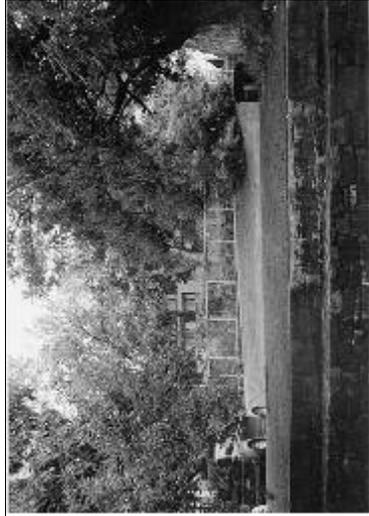


Figure 35 Block 4 South

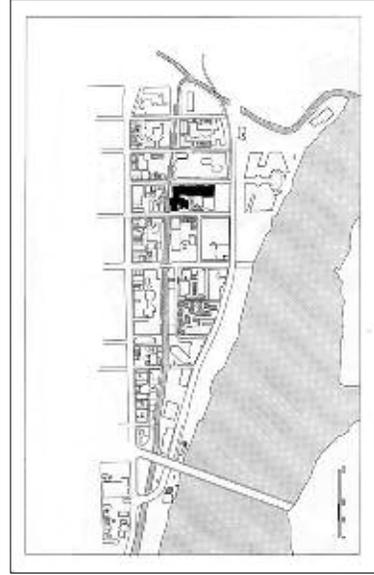


Figure 36 Block 6 South



Figure 37 Block 5 South

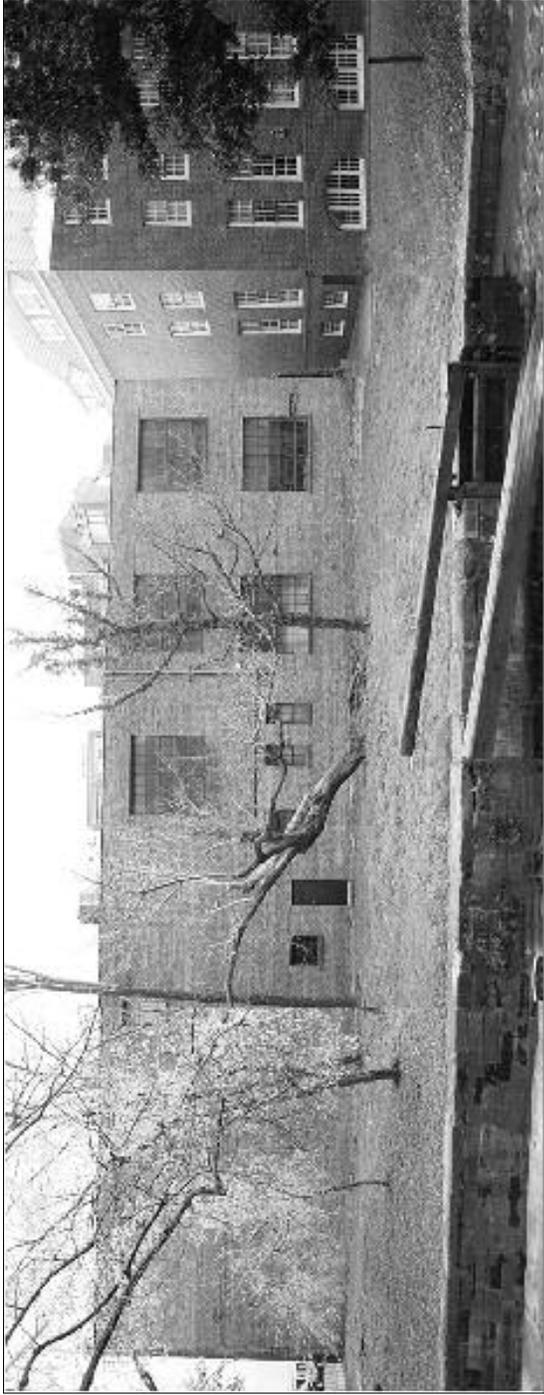
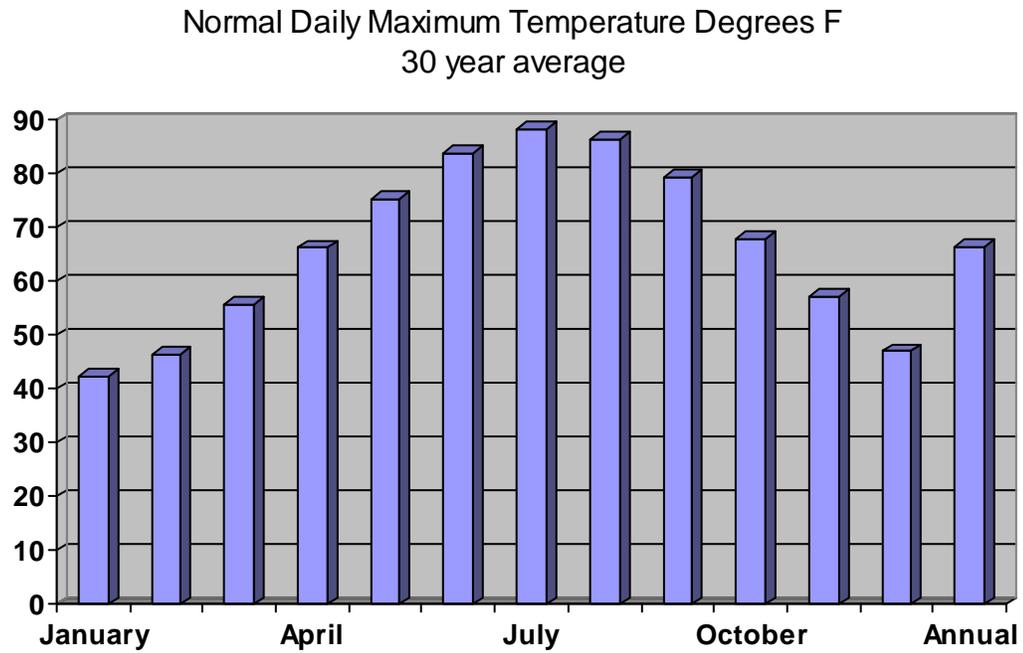


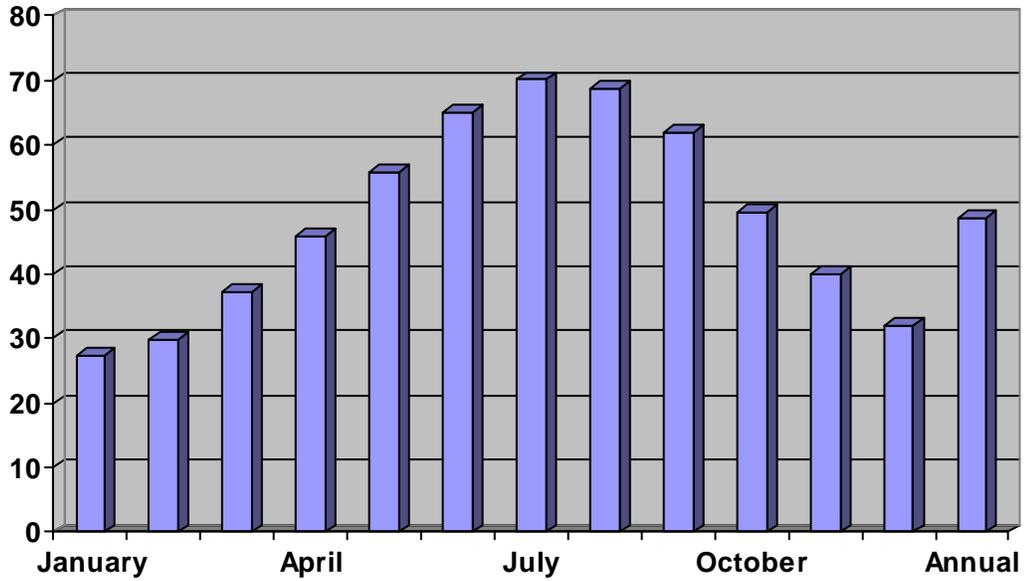
Figure 38 Block 7 South

Climatic Data

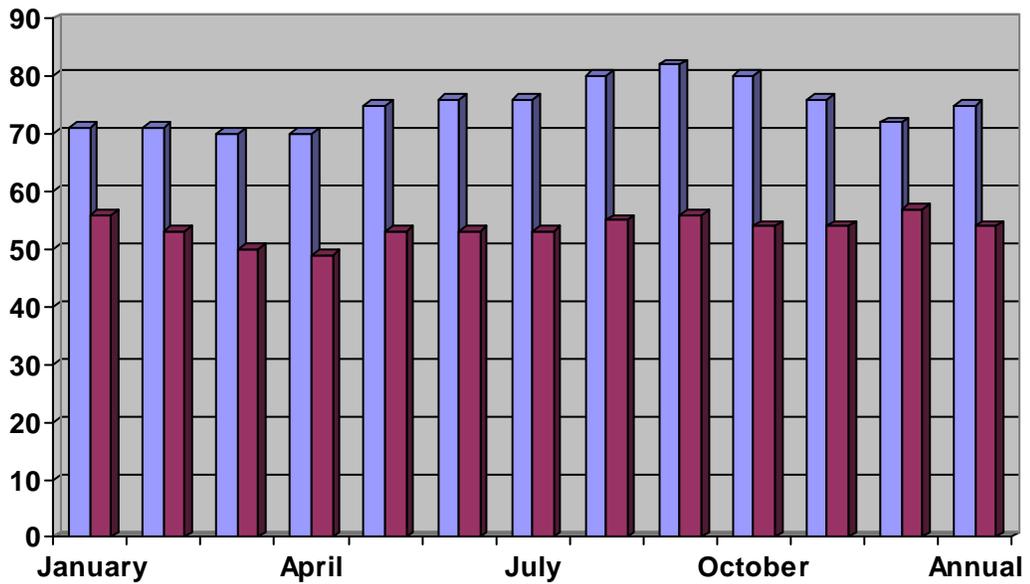
Climatic Data from Washington National Airport, D.C. according to the National Oceanic and Atmosphere Association (NOAA Website). This climatic data is given not only to further explain the site but also to aid in sustainable design.



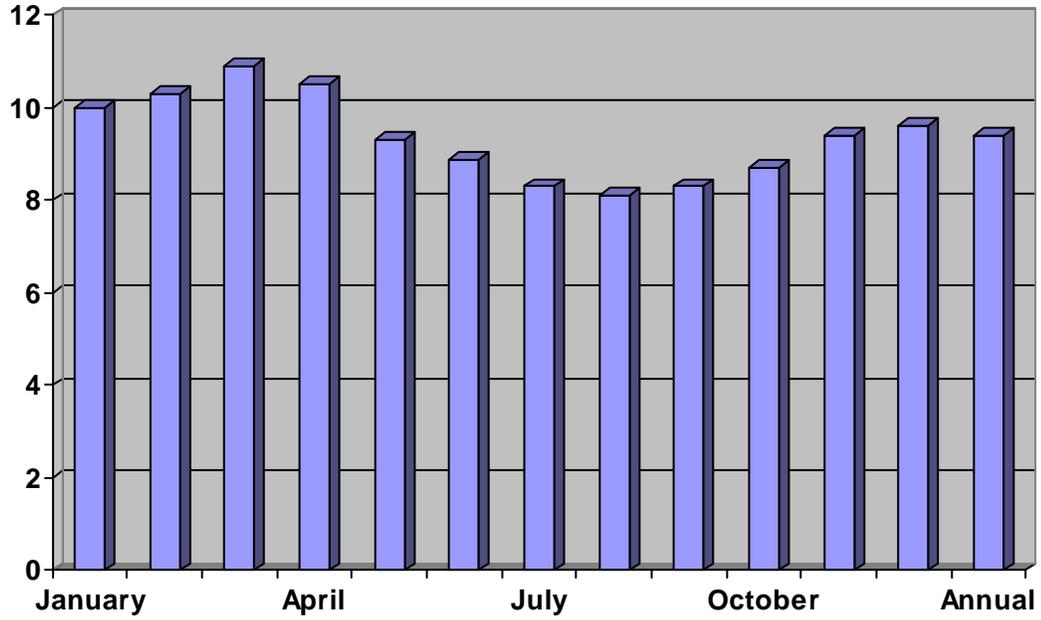
Normal Daily Minimum Temperature, Degrees F
30 year average



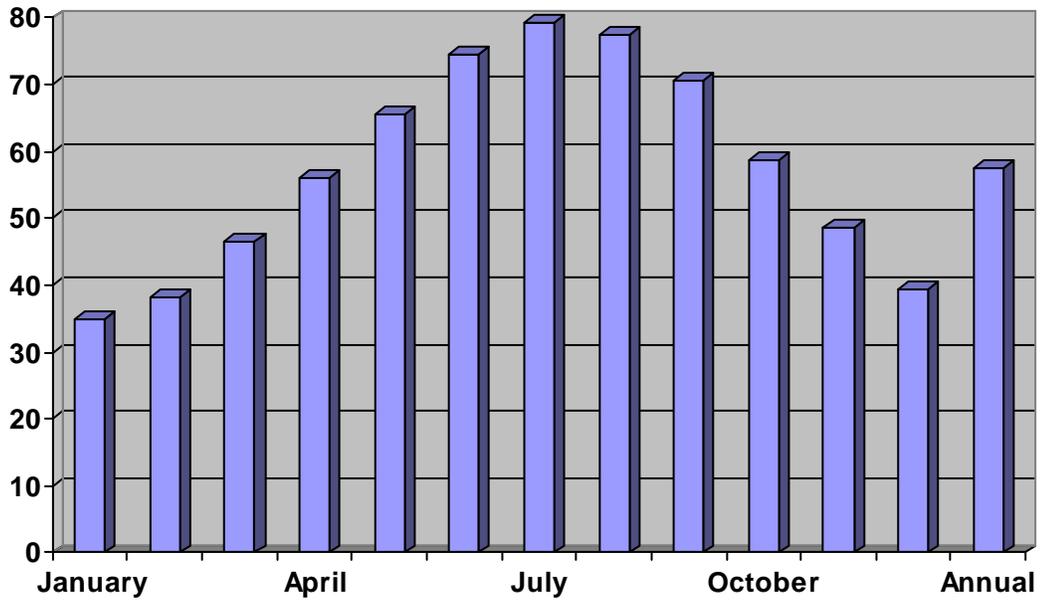
Average Relative Humidity (%) 2002 42 year average



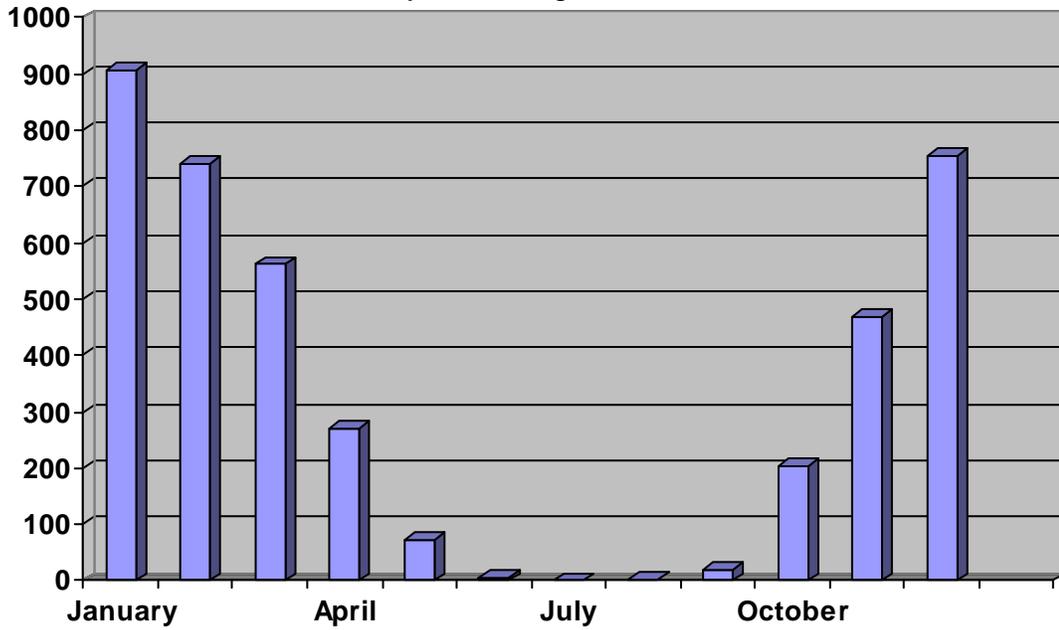
Average Windspeed (MPH) 2002 54 year average



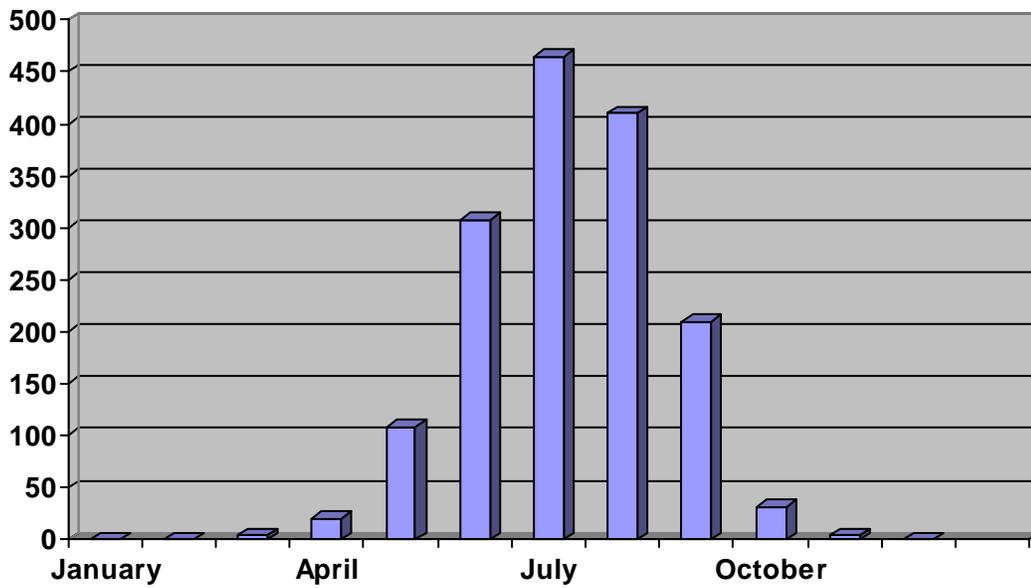
Normal Daily Mean Temperature, Degrees F
30 year average



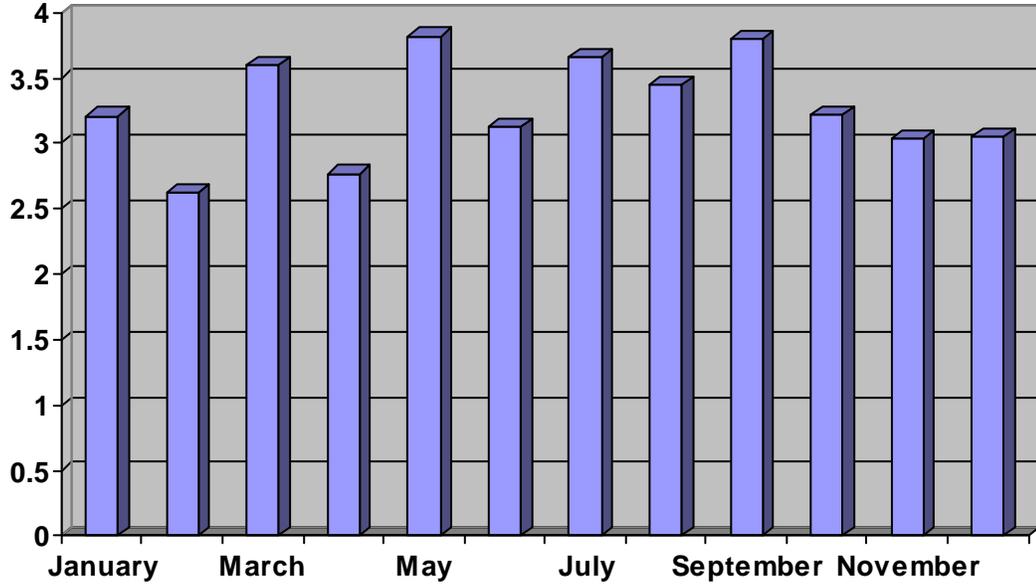
Normal Monthly Heating Degree Days (Base 65)
30 year average - Annual = 3999



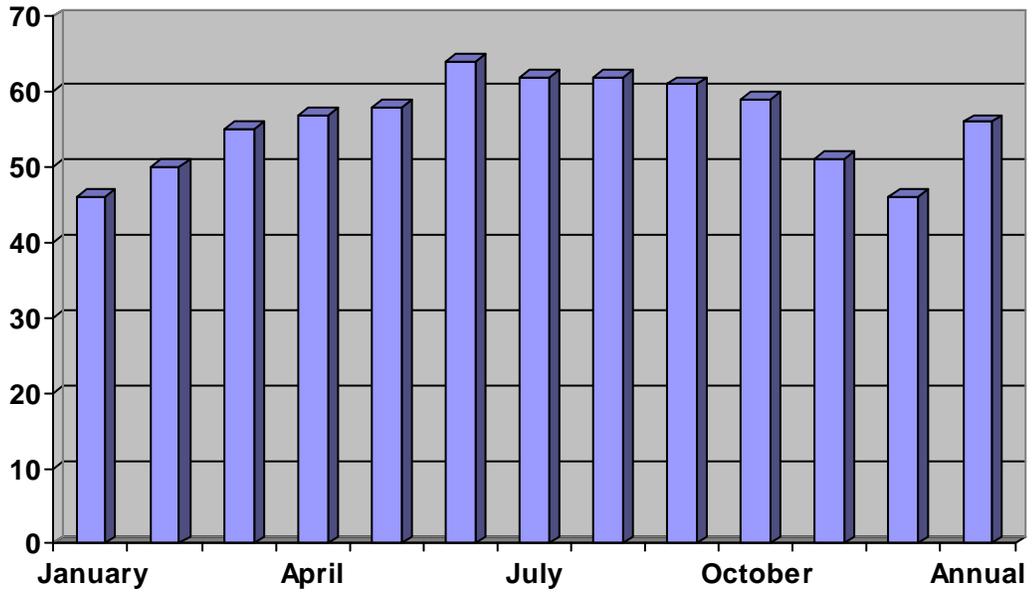
Normal Monthly Cooling Degree Days (Base 65)
30 year average - Annual = 1560



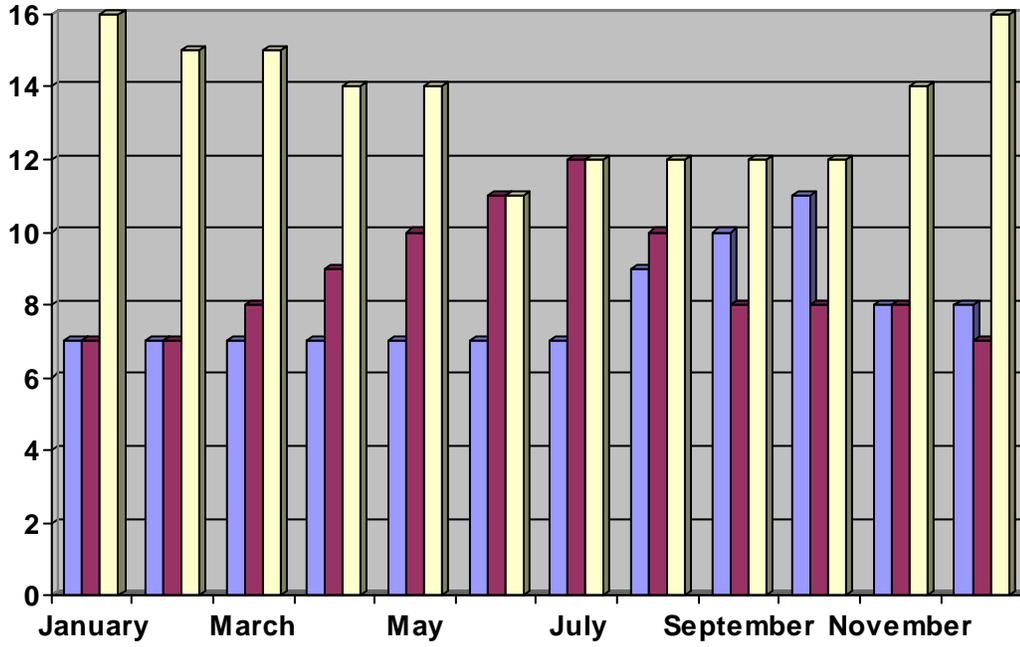
Normal Monthly Precipitation (Inches)
30 year average - Annual = 39.35



Sunshine - Average (%) Possible
50 year average



**Cloudiness - Mean Number of Days
48 year average**



ANNUAL : Clear 96 Partly Cloudy 106 Cloudy 164

Site of Building

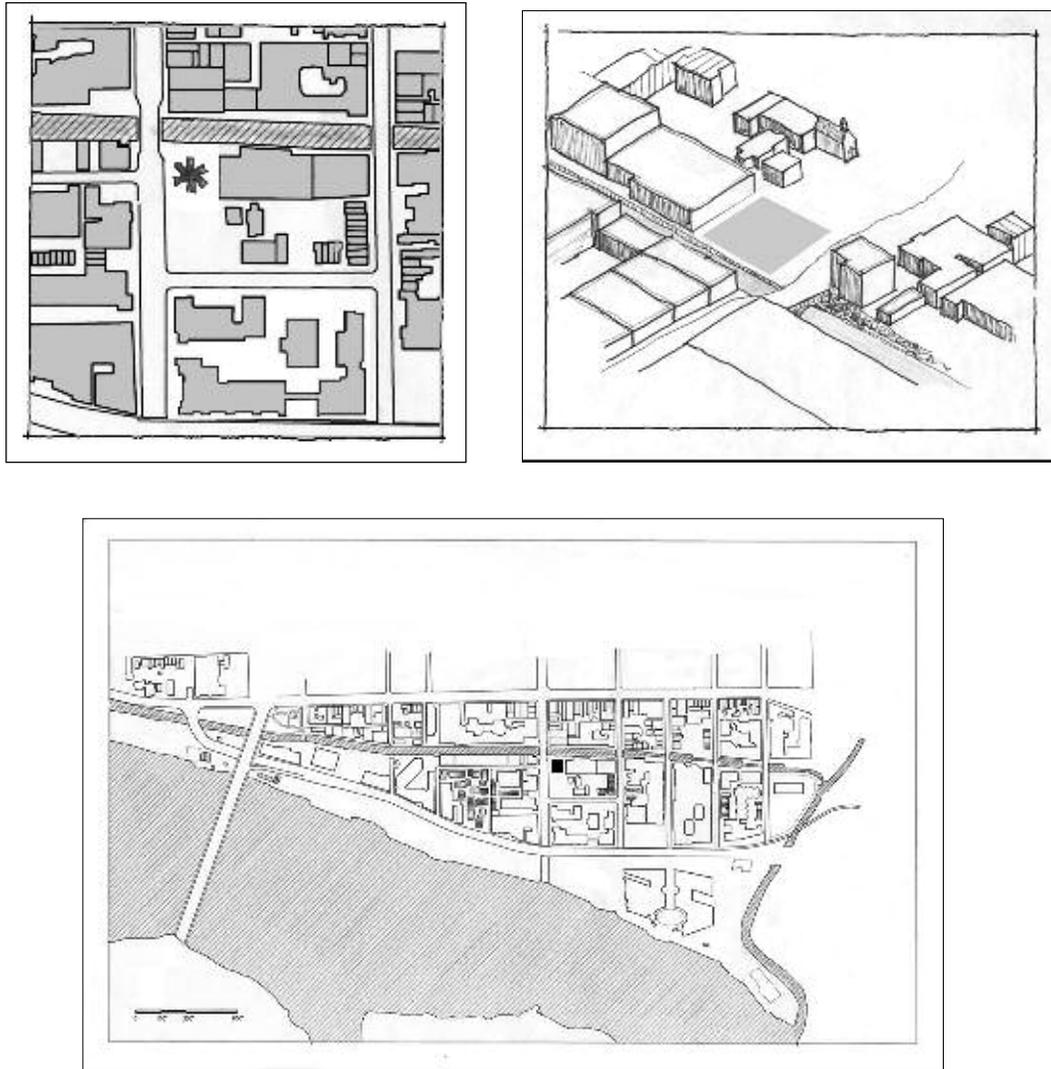


Figure 39 Site Location

The site chosen for this project is the parking pad adjacent to the switching station south of the canal. It is at the intersection of the canal and Wisconsin Avenue. This intersection is at the center of the study area. The pedestrian activity has the potential to be great here. The historic Wisconsin Avenue Bridge is a nice set piece to work with as well.

CHAPTER 4: Precedent Studies

Buildings

Sarphatistraat Offices, Amsterdam, Stephen Holl architect

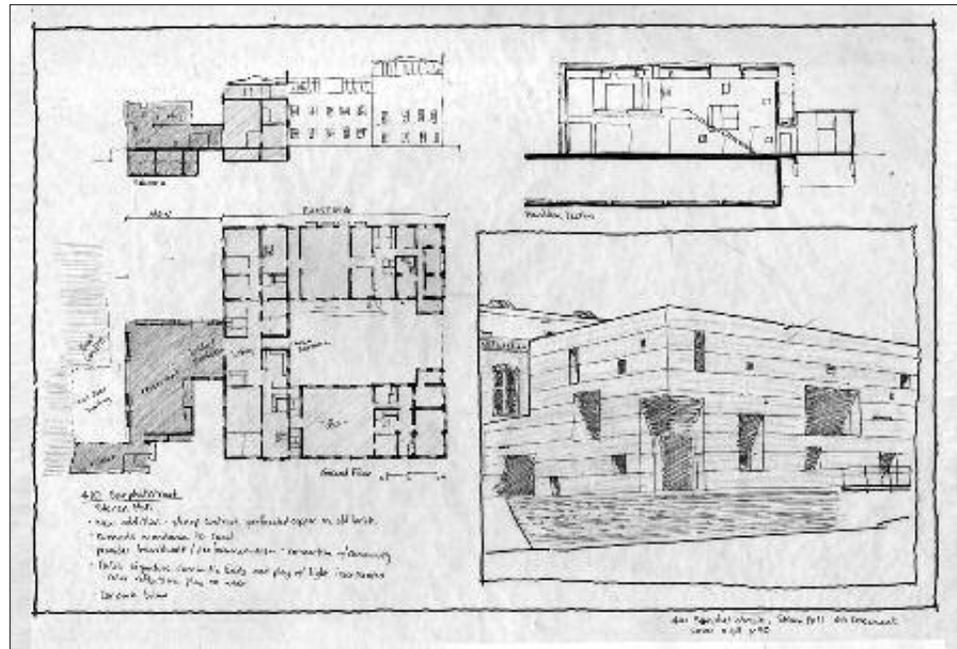


Figure 40 Sarphatistraat Offices

This office is a renovated warehouse with a new addition, along the banks of the Singel Gracht. Holl integrates the interior spaces while allowing the old and new exterior elements to intensify one another through contrast (GA Document, p. 39).

The materials, fenestration and style are all indicative of the present age. The massing is similar to the original design though. Programmatically, Holl addresses the public and the canal with a plaza space for public gatherings and performances along the immediate edge of the canal. Architecturally the new wing reaches out towards the canal and encloses the plaza space on two sides.

The building is layered with perforated copper panels, plywood and the buildings

systems. By bouncing light between these layers “Chromatic Space” is created (GA Document, p. 39). Holl’s signature element of light is well utilized here, not only interacting with the building but the canal’s water as well.

St. Saviour’s Dock and Butler’s Wharf, London



Figure 41 Butler's Wharf, St. Saviour's Dock, and River Commuter (Heller Website)

The balconies of these buildings recall the architecture of the historical canal bridges. This area of London also makes use of the river as commuter transit.

London is not the only city to use commuter boats, New York also has a ferry to its suburbs in New Jersey.

Carme de Abaixo, Santiago de Compostella, Spain

The vernacular building materials are employed well here.

Design Lessons from Building Precedents:

- Old and new elements can contrast one another to highlight their differences and similarities visually
- Specifying a programmatic element such as “performance area” to engage the public with the canal can be advantageous but only if the public actually uses the space. An open plaza could have many uses or it could be vacant. Perhaps more specific architecture should be used.
- Boats are a viable and unique mode of commuter transit in some areas
- The materiality of water, light and stone (of the canal wall) can be explored and capitalized on to form relationships between old and new construction
- “Defamiliarization” of the building materials can be a good strategy towards the comparing and contrasting the old and the new as well.

Waterfronts in Urban Contexts

San Antonio's Riverwalk

The Riverwalk here is quite famous and many tourists visit this each year. Programmatically, the Riverwalk is full of destination restaurants and retail shops geared towards tourists. The walk is actually a loop with no particular destination although there are places of special interest nearby. Recently, the canal has been the focus of new design just outside the city. The recreational aspect of the canal has been nurtured as well as the ecological conditions.

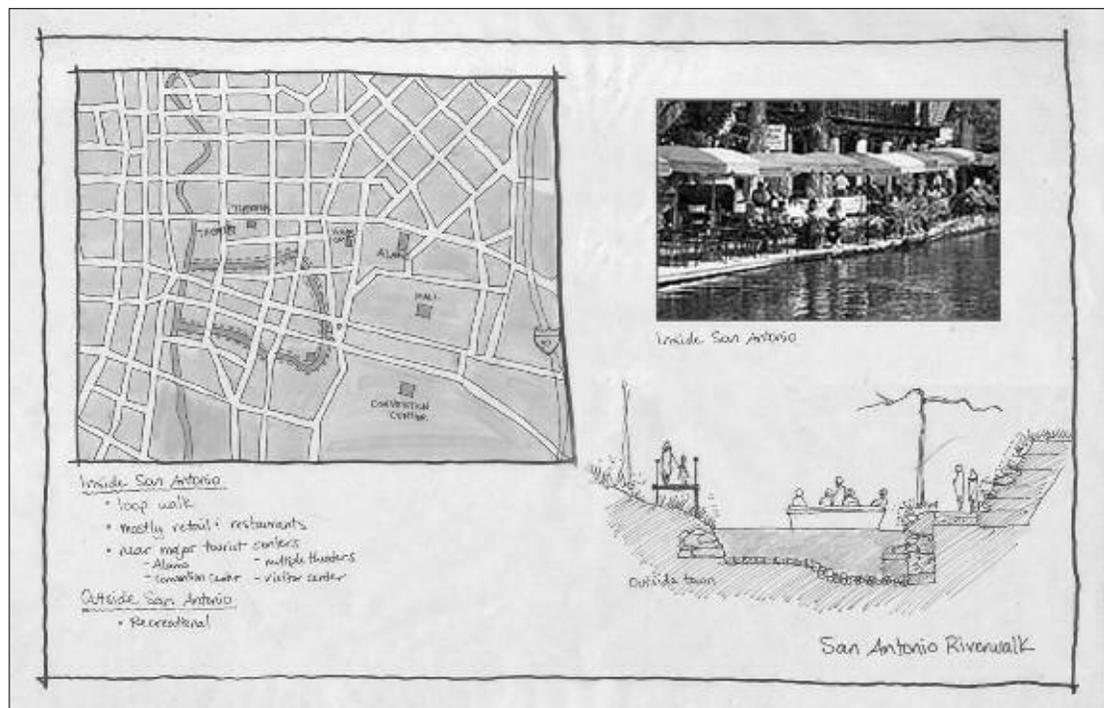


Figure 42 San Antonio Riverwalk Diagram

Arizona Canal

Two projects have been completed here recently, which reconnect the community to the historically significant canals. The Sunnyslope Canal Demonstration Project by landscape architect M. Paul Friedberg and artist Jackie Ferrara. There are many interpretive spaces along the canal. The rich history of the ancient Hohokum society is drawn upon to create some of the interpretive spaces.

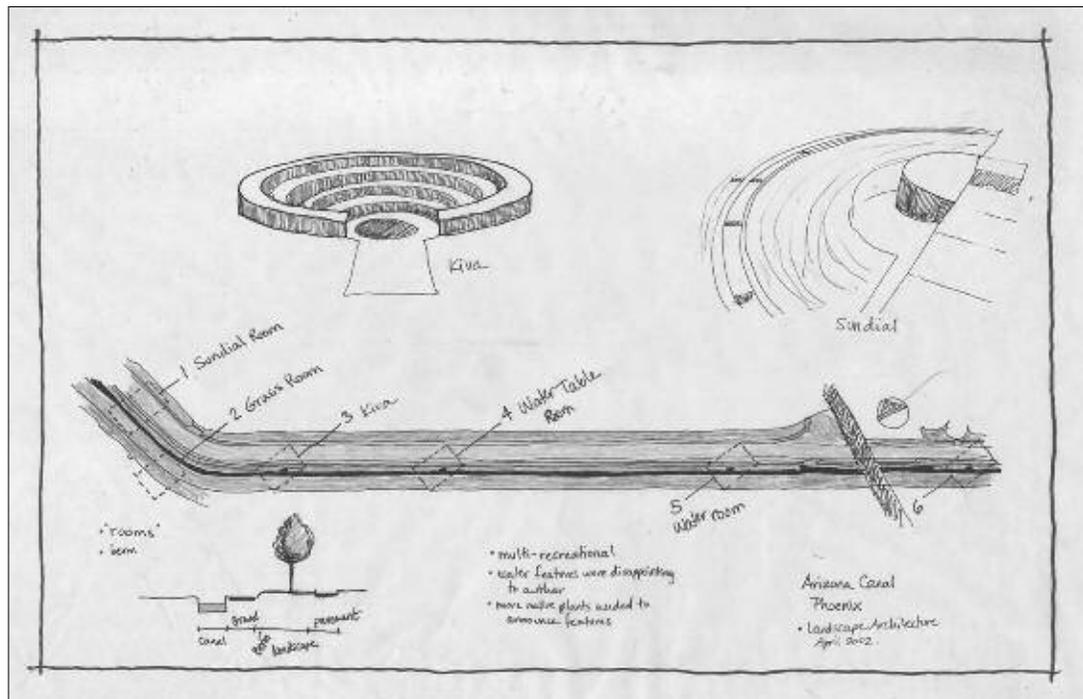


Figure 43 Arizona Canal Diagram

Some of the spaces included are:

- a “kiva” space, which is part of the Hohokum religious life
- a human sundial allowing the public to participate
- a water table “room”, which maps the ancient and current canals.
- The pedestrian and bike paths are separated by

Hakata Canal

Jon Jerde designed “Canal City Hakata” a multi building, multi-use commercial district along the Naka River canal. The programming consists of two hotels, and office building, a large department store a Cineplex and outdoor performance areas. The buildings are brightly colored and curvaceous like the canal. The section created has a strong sense of enclosure. The curves allow for the pedestrian to experience each space separately. The “narrative” of the canal unfolds in stages.

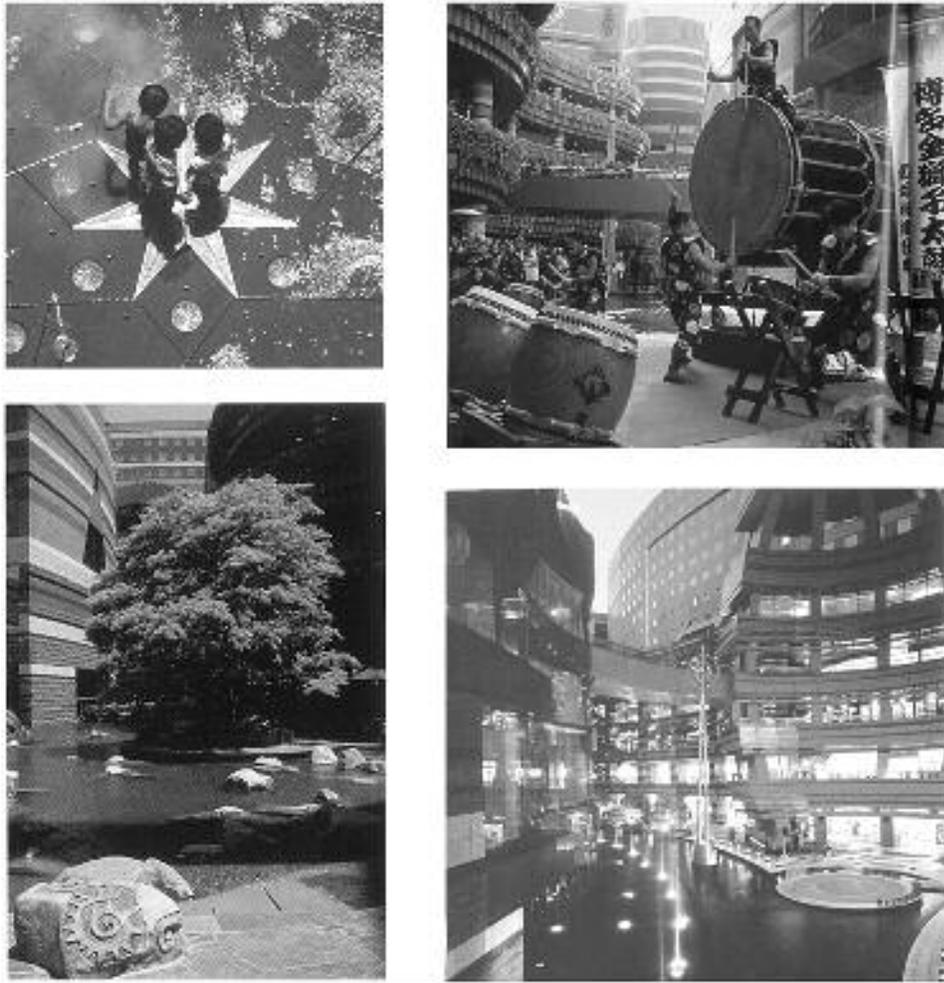


Figure 44 Hakata Canal Pictures (Gandel)

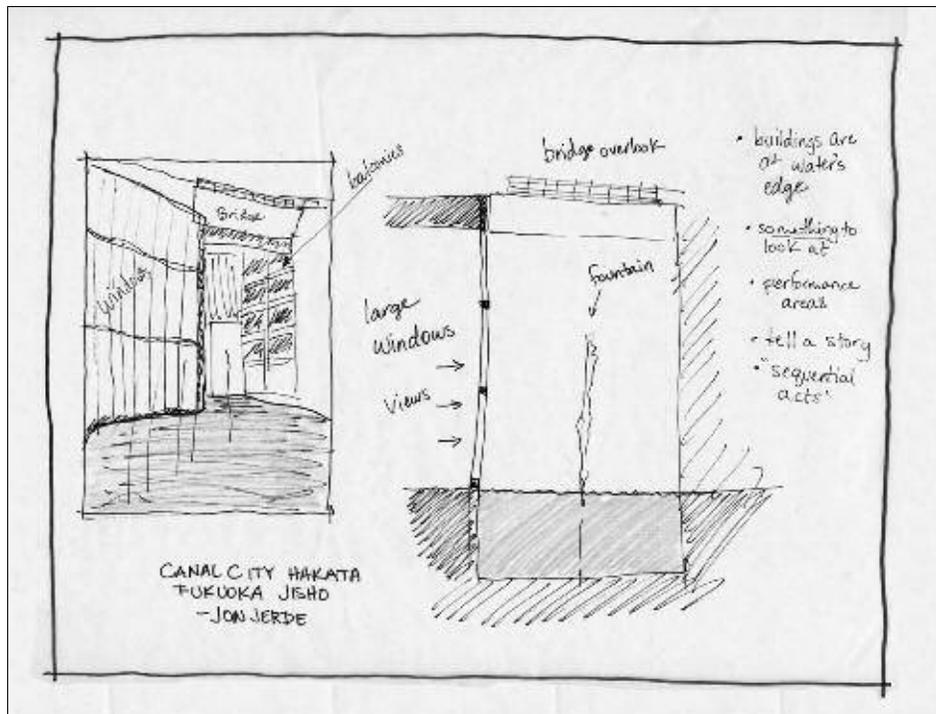
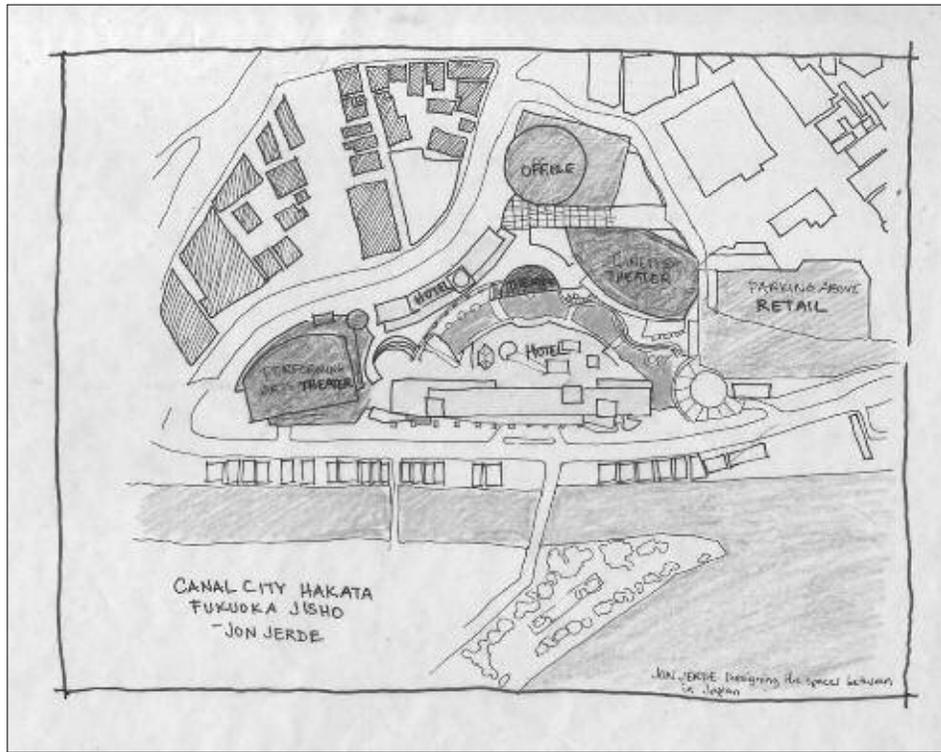


Figure 45 Hakata Canal Diagrams

Design Lessons from Building Precedents:

- Emulating the pedestrian bridges in style or material can be effective
- Make paths distinct from special areas
- Be inclusive in design, welcome all
- Use landscaping effectively; “announce” the special areas
- Tell a story
- Use a variety of spaces connected by a structure sequentially

Street Sections

As noted previously, the section of the site is important to defining the design method.

These additional street sections are given to further this study. All of these examples are from the *Great Streets* book by Allan Jacobs.

Castro Street, Mountain View, California

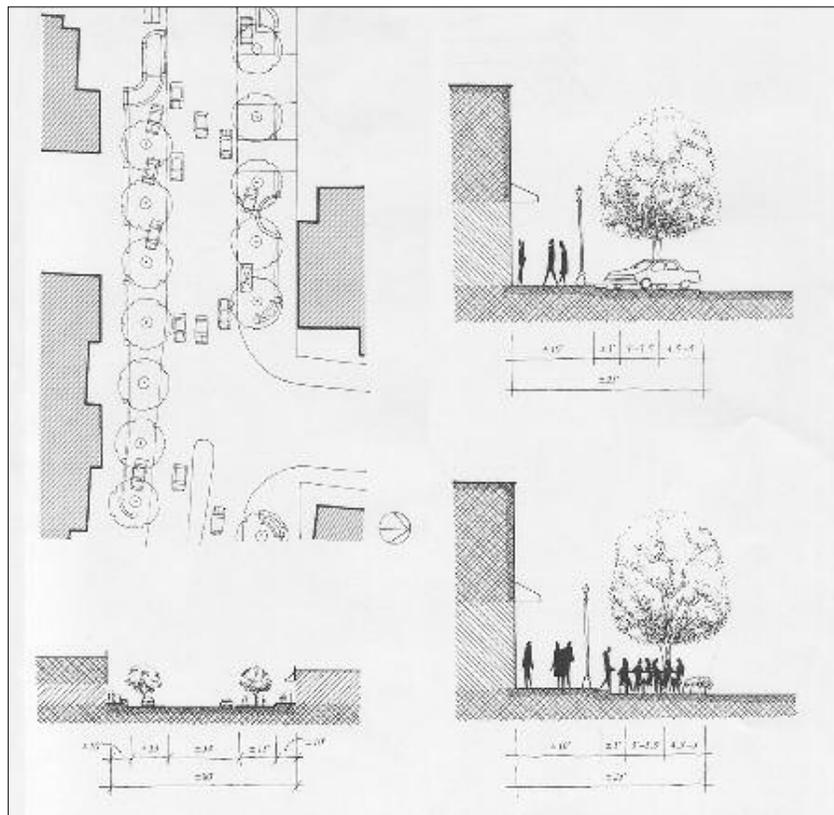


Figure 46 Castro Street Section (Jacobs, Allan p.)

- Non symmetrical
- Multiple modes of transportation are accommodated
- “Swing” area - the use is flexible, changing from parking to seating as desired

Amsterdam, the Netherlands

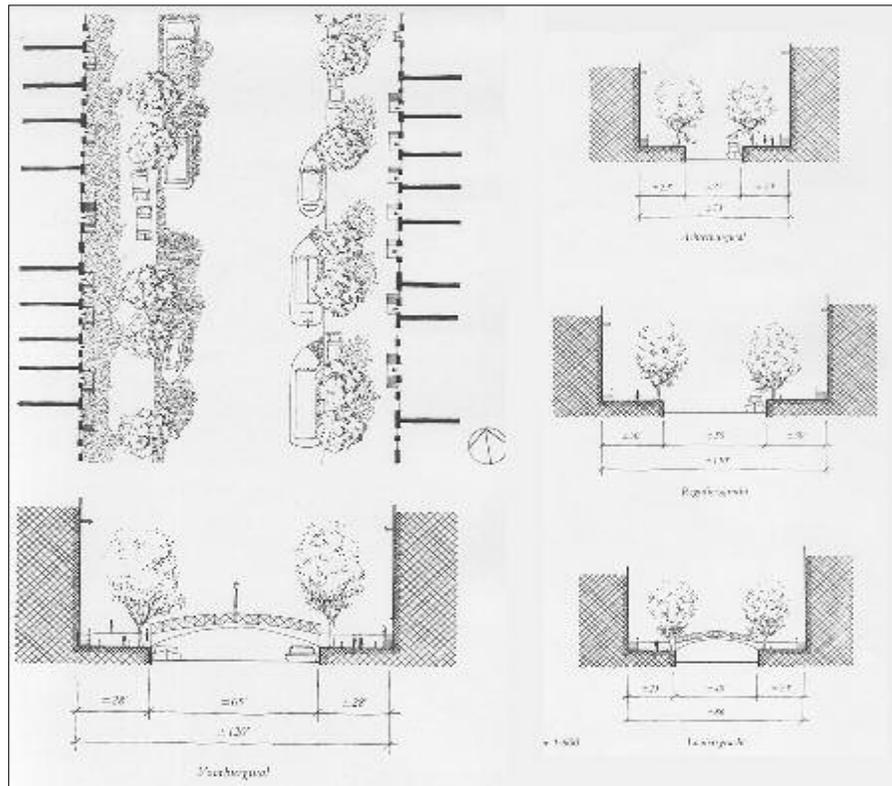


Figure 47 Amsterdam Canal Sections (Jacobs, Allan p.)

- The canal acts as a street
- Three canals with various widths are highlighted here
- Pedestrian bridges link the two sides
- Boat mooring is allowed
- The canals are tree-lined like an American street
- Buildings front the canals
- Stairs connecting the ground plane to the pedestrian bridges occur along the building face

CHAPTER 5: Program Analysis

Urban Canal Program

Activities encouraged:

- Hiking / Dog walking
- Bicycling – 8' wide for two-way travel
- Boating from Georgetown to Violettes Lock: Mile 0-22 boating is allowed
- Fishing

Site Furniture:

- Markers for the Locks, Sluice Gates, Native Plants and Mileage
- Benches, bike parking and planters
- Lighting
- Interpretive Art

Programming necessary to foster interaction:

- Café, ice cream shop, juice bar
- Transportation center
- Quiet retail – bookstore, art gallery, bicycle and boat rentals
- Office lunchrooms on canal
- Apartment gyms on canal
- Outdoor performance area
- Improved, well defined, trails
- Observation tower

Building Program

Main Gallery / Entry	1,000 square feet
Coatroom	100 square feet
Restaurant / Café (3620 s.f.)	
Seating for 60	1,000 square feet
Outdoor Seating for 60	1,000 square feet
Kitchen	400 square feet
Food Storage	200 square feet
Dishwashing and storage	200 square feet
Office	120 square feet
Restrooms	400 square feet
Shipping & Receiving	300 square feet
Bicycle Rentals (1300 s.f.)	
Rental Office	300 square feet
Storage Bays for 40 Bicycles	600 square feet
Repair shop	400 square feet
Georgetown Center for Genealogy (16640 s.f.)	
Computer Labs 2 @ 600 s.f. each	1200 square feet
Offices 7 @ 120 s.f. each	840 square feet
Director, Archivist, Accounting, Computer Specialist,	
2 Genealogists, Webmaster	
Large Meeting Room 2 @ 800 s.f. each	1600 square feet
Library/Reading Room	3600 square feet

Library Space	6000 square feet
Librarian's office	200 square feet
Archival Space	1000 square feet
Recording Lab	600 square feet
Conservation Lab	600 square feet
Restrooms	600 square feet
Storage	400 square feet
Bookstore	1,000 square feet
Mechanical/Electrical	3,000 square feet
Circulation	3,000 square feet
Total	29660 square feet

Program Descriptions

Main Gallery – 1,000 square feet

This space includes interpretive art and some artifacts relating to the C & O Canal its history and culture. An information desk will be included to assist visitors and to showcase some brochures such as maps.

Restaurant/Café – 3,620 square feet

This café will provide seating for 60 people. The café will take advantage of the views and proximity to the canal and will include a terrace for additional seating during seasonal weather. The café will provide a variety of foods and beverages for breakfast, lunch and light dinners. The food will be conducive to the needs of the recreational and commuting travelers such as fruits, salads, mineral waters, bagels, etc. The kitchen contains cooking facilities, with walk-in storage, refrigerator and freezer.

Bicycle Rentals – 2,000 square feet

The rental shop will include a rental office and storage bays for approximately 40 bicycles. Some tandem bikes and child safety seats will be included too. The bicycles will be available on an hourly or daily basis. A small repair shop will be located here as well. Retail will not be included, patrons will be directed to the bike shop across the canal on Potomac Street.

Georgetown Center for Genealogy - 16640 square feet

Computer Labs – Internet access to other genealogy centers, libraries and government centers is extremely important to researchers. These should be separate from regular study areas due to the noise.

Offices - for various staff members

Large Meeting Rooms – These rooms can be rented out to generate income or could be employed by the staff. Another use could be to teach classes on using Genealogy software programs and information on how to research genealogy for the amateur.

Library Reading Room – Space for relaxing and space for more serious research. Lighting is very important.

Library Space - The largest space requirement is for housing the actual documents. Space for the particular immigrant populations unique to Georgetown will be denoted: African American, Jewish, German, Irish, and Scottish. Maps, genealogies, and census records will all be available to researchers. This library will have microfiche readers and photocopiers to aid patrons as well. The library will not be a lending institution, all materials will be accessible but can not leave the premises.

Archival Space – Space for very rare and fragile documents. Copies will be made for patrons to utilize, or will be available with librarian assistance.

Recording Lab- A small recording lab will be available so that oral histories may be recorded and perhaps archived at the Center.

Conservation Lab – Space for the conservation and archiving of documents.

Interns may have space to work and learn here as well. The lab could work on documents for other libraries and museums too.

Bookstore – 2,000 square feet

Local History and Genealogy related materials would be sold here. For example, maps delineating particular historical tours of Georgetown, archival materials, acid free paper, and genealogy software packages.

CHAPTER 6: Design Approach

Design tactics:

- Frampton – Defamiliarization of materials makes one refocus and rethink a situation
- Differing technologies
- Perhaps create a sharp contrast between the old and the new. Preservationists prefer to have an easy “reading” of what is original and what is new material, this technique might serve well in creating a comparison of values as well.
- Sustainable design – comparison to the old and new techniques
- Lighting
- “eyes” on street – Jane Jacobs theories on urban design can enhance the canal towpath buildings
- Threshold elements to Georgetown

CHAPTER 7: Initial Partis

Parti One - Balconies

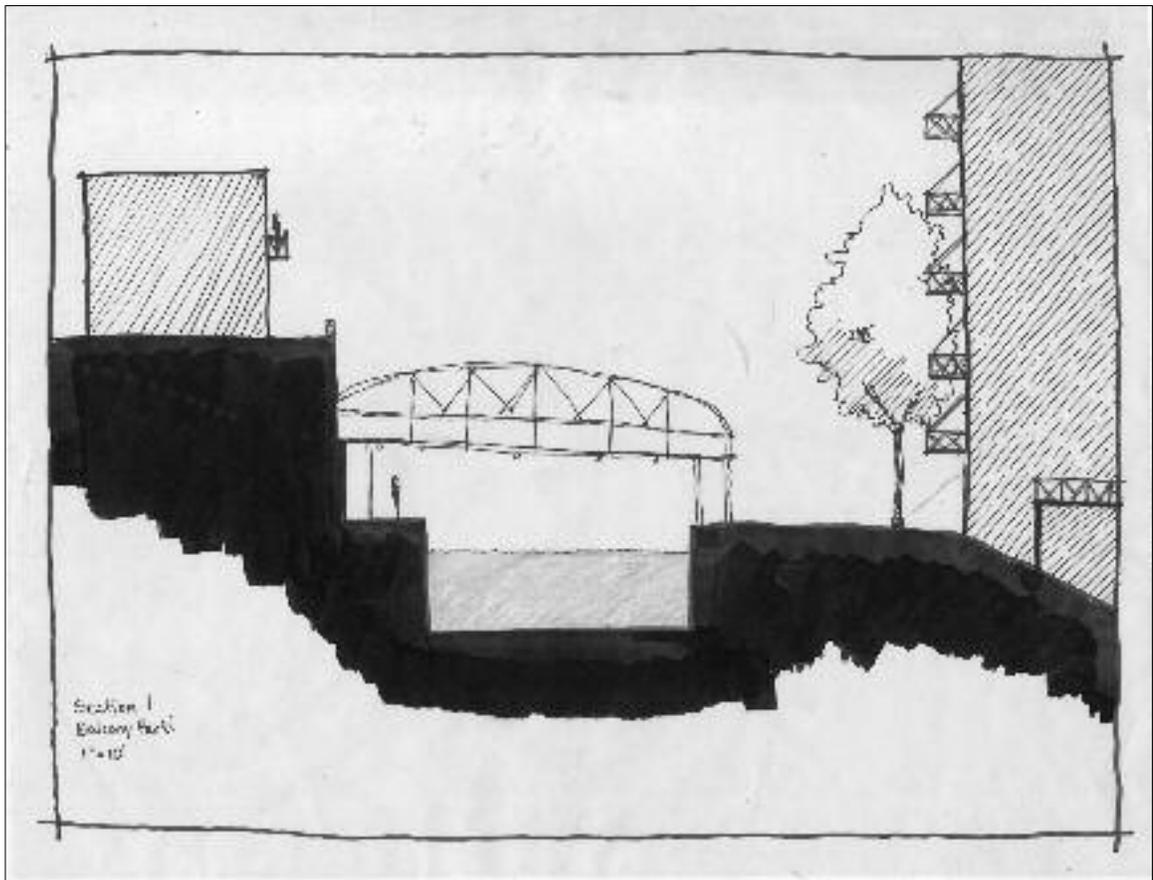


Figure 48 Balcony Parti

This parti makes use of balconies to foster a visual link to the canal. Site furniture will be included as mentioned above in the program analysis. Plantings will need care to create a landscape worth viewing. Some buildings are not continuously occupied and some buildings are set high above the canal, creating some problems with this approach.

Parti Two - Arcade

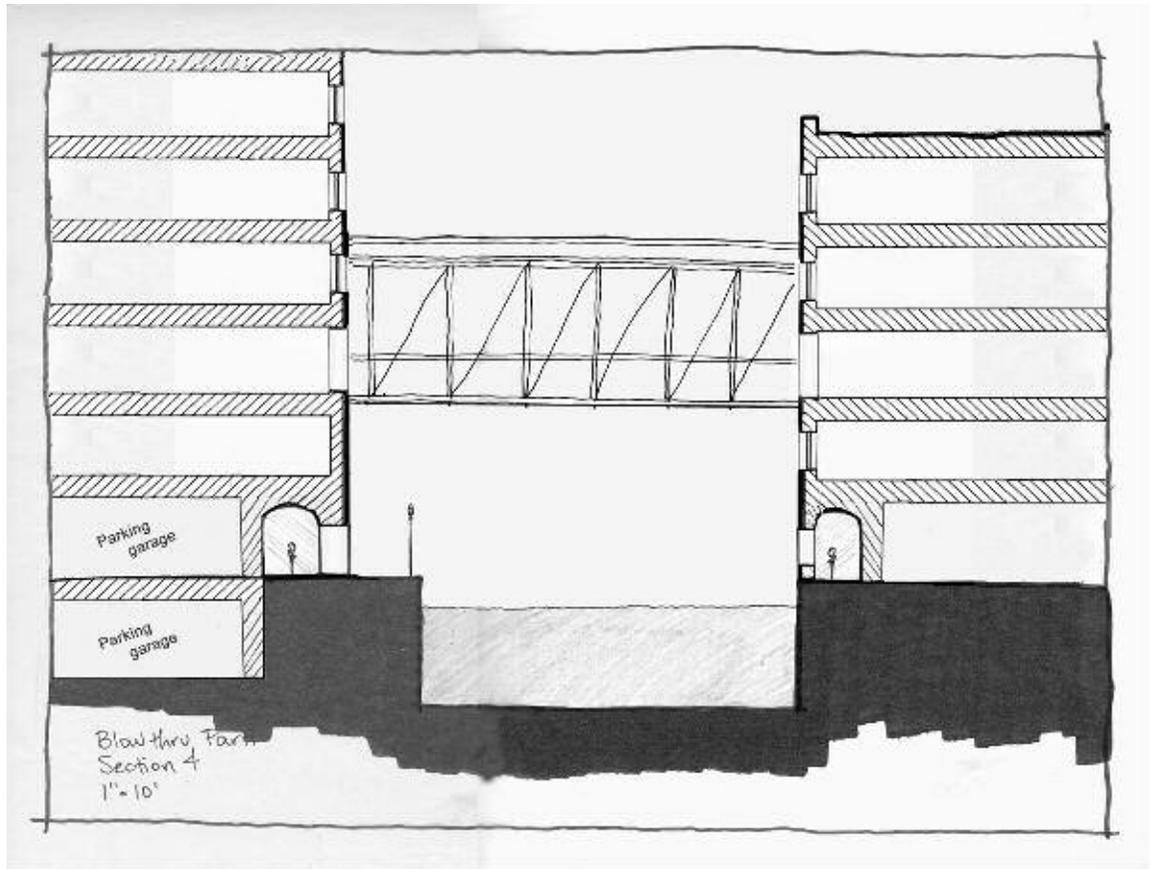


Figure 49 Arcade Parti

Some of the buildings along the canal are built at the very edge of the canal, precluding a pedestrian trail. The discontinuous nature of the trail in Georgetown is a problem.

Inserting an arcade on the canal level of the buildings continues the path. The buildings are actively engaged with the canal and views are created.

Parti Three – Stepping Stones

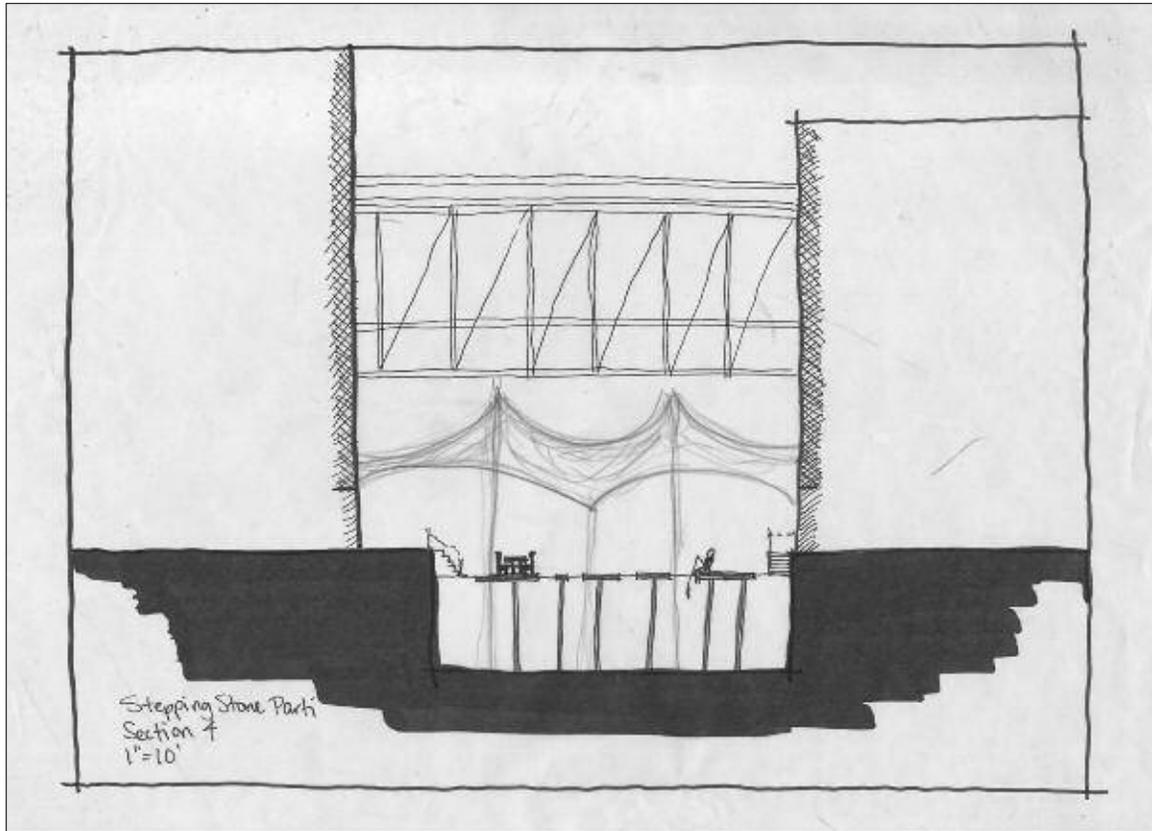


Figure 50 Stepping Stone Parti

This parti looks at a condition where the building face is at the canal's edge. A boardwalk or "stepping stone" path is utilized to continue the towpath where it is currently discontinuous. A tenting structure is used to call attention to specific areas of the canal, perhaps only the zones where pedestrians cross at the waterline.

Building Scheme One

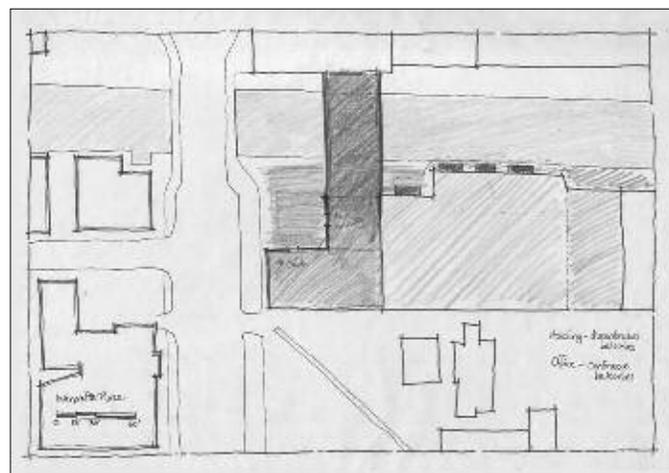
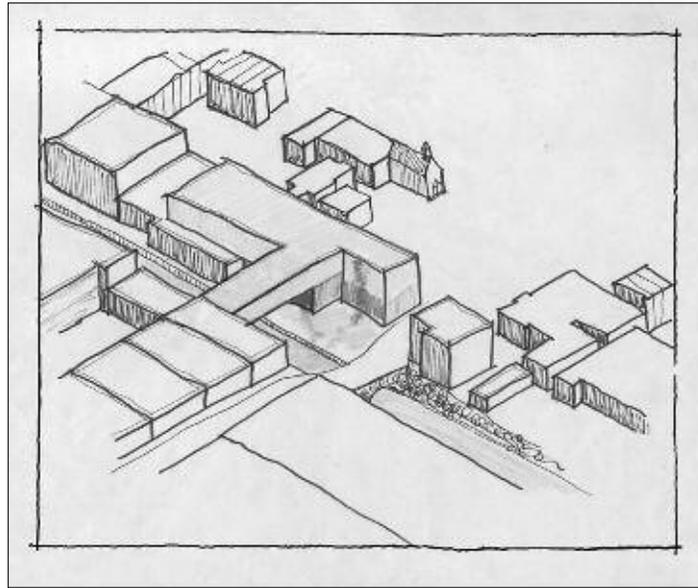


Figure 51 Building Scheme One

This scheme makes use of a bridge element. This conceptual diagram gives the initial idea of a bridge but the placement and nature of the bridge would need to be explored in more depth. The proximity to other bridges (pedestrian and auto) would need to be studied. Also, what programming would be appropriate here? The bridge may be a separate entity. Perhaps it is more public, or perhaps it is actually an expansion of an existing bridge.

Building Scheme Two

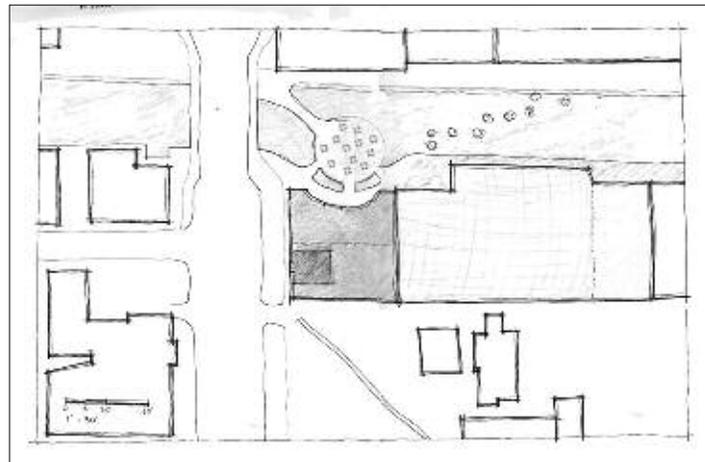
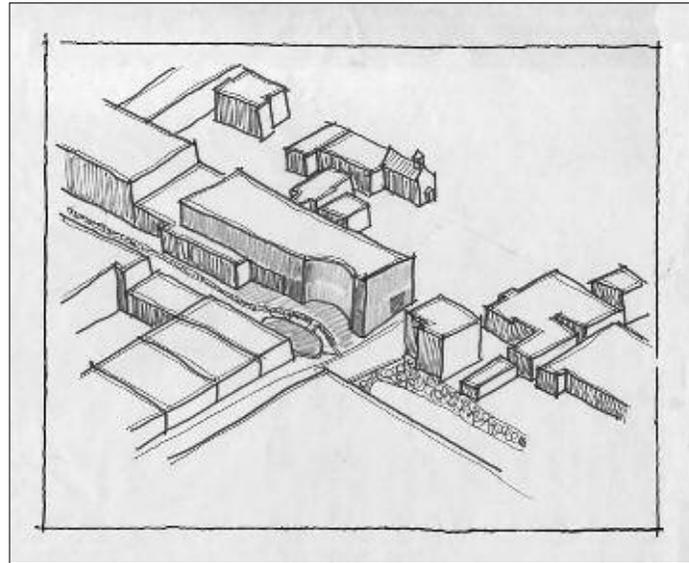


Figure 52 Building Scheme Two

This scheme makes a plaza area within the canal. Seating for the café would be on a floating terrace. Paths and stepping stones would lead to the main seating area. One problem with this approach is that it bisects the canal. This could be used to an advantage though. Canal boats could travel east from this point and experience the locks. Row boats and kayaks would travel west with no locks to hinder movement. This idea may be more suitable for a larger waterfront, perhaps it is too grand for the small canal.

Building Scheme Three

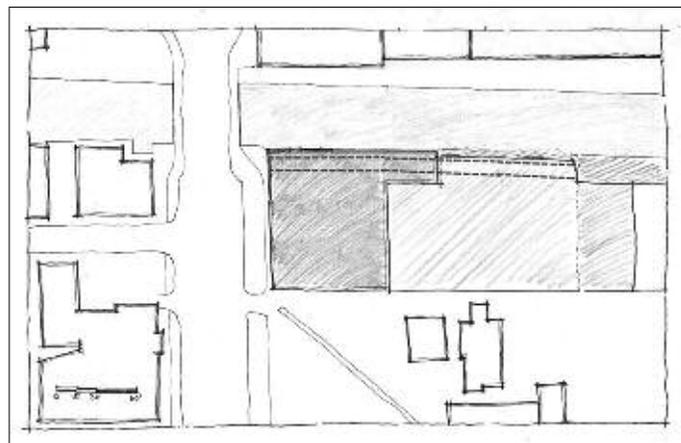
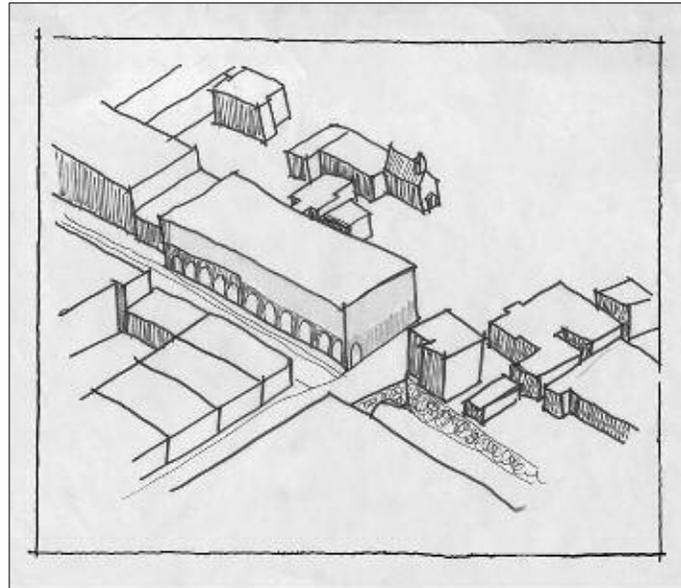


Figure 53 Building Scheme Three

This scheme employs the arcade parti. The building could fill the site and possibly extend over the switching station and engage the canal with the arcade. The arcade could be large and include the café seating or it could house only the trail. Since this is the south side of the canal, the arcade would not receive any sunlight.

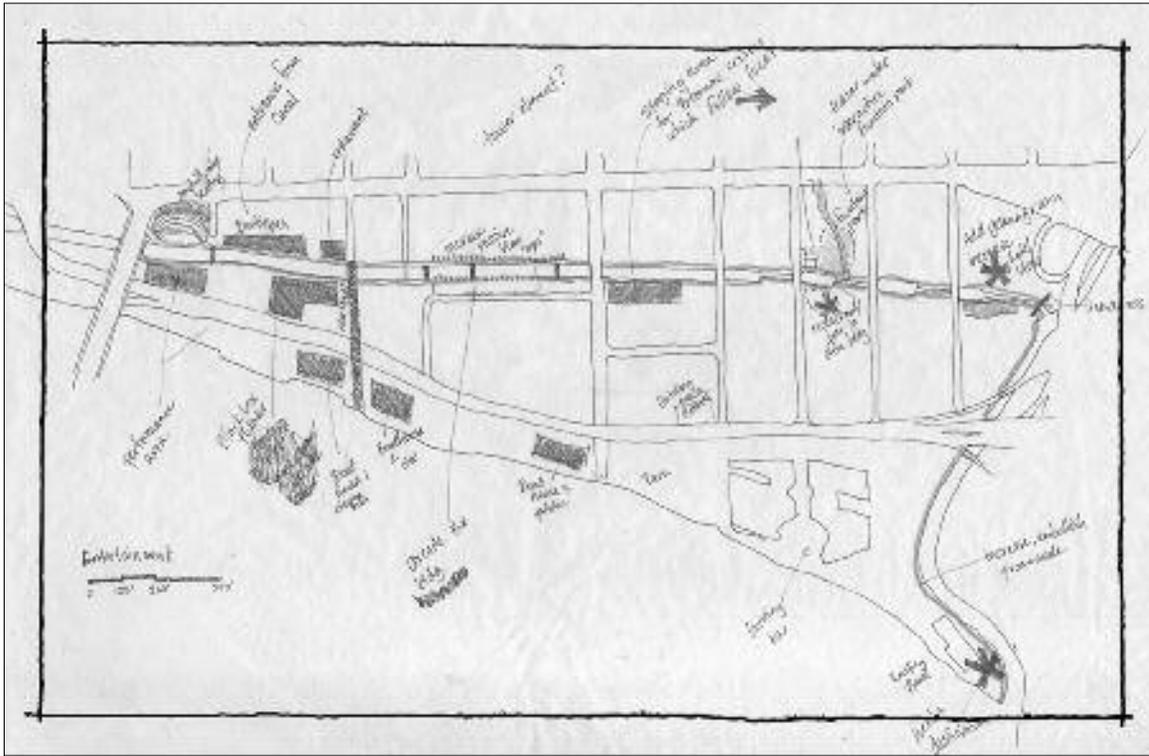


Figure 54 Entertainment Programming

This sketch depicts some ideas on programming the larger site. While the café and bike rental building(s) are to be the focus of the thesis design, the programming of the urban canal must be explored. As mentioned above in the program analysis, there is some specific program elements that would need sites. A fishing wharf, an outdoor performance area and boat landings. This sketch also notes the possible relocation of the three proposed boathouses along the Potomac between Wisconsin Avenue and Potomac Avenue. By placing the boathouses here there would be increased north-south pedestrian movement, another way to introduce the canal into the public realm. Currently, not much of the general public travels south of M Street.

CHAPTER 8: Design Conclusions

As with any project, this thesis has been a journey of exploration. The design of the building overshadowed much of the initial ideas of landscape program along the canal, though some thoughts still came through. The towpath was completed where it had been discontinuous, particularly along the southern edge of the canal, east of Wisconsin Avenue. Earlier ideas for continuing the path along the Canal House, west of Wisconsin Avenue were not established. Instead, the small plaza west of the Canal House was redesigned, incorporating an interpretive fountain which had been hidden from the path. The path encourages the pedestrian to leave the canal edge, circumnavigating the building, and re-entering the canal zone at the Genealogy Center. Along the path at various points are small interpretive signs. These are designed to emulate the Genealogy Center, providing a visual link and cohesion along the canal. The signs are silk-screened glass, allowing the beauty of the canal stone to be filtered through the point of history illuminated. A bench, industrial style lighting, indigenous plantings and bike parking are all integrated with the signage.

The building was pulled away from the Wisconsin Avenue street edge to create an inviting, public, entrance to the C & O canal as well as give deference to the historic Grace Church's yard. In this manner the two public spaces read as one large space. The redesign of the church yard aids this concept too. The Church gates could open and the additional stairs can be used as a grand promenade to the tow path along the Canal edge.

The building design's major cue is the "stone box". All of the library stacks, documents, archives and conservation areas are housed within the box. This keeps the light out, the mechanical system separate and it makes a visual statement as to what is the protected, significant element of the building. The canal stone also creates a link to the canal wall; a vessel for history. The reading room and gallery space are linear, glassy, lightweight elements along the northern edge of the box. Here is the ephemeral passage of time, the current population's place to meet history.

The green roof, the glass along the north facing façade and the thick stone walls protecting the light sensitive materials are all ways which aid the building's sustainable aspect. Sustainability is currently a popular component for buildings but before the advent of air conditioning and electricity it was a way of life. By including sustainable aspects the building reinvents past ideas in the current time period.

The restaurant and terraced café invite people to linger along the canal. The cascading ramps and grand staircase invite people to come down to the canal edge. Benches provide space for people to rest and reflect on the past. Perhaps people will come into the library itself and learn more about the history of the area, the populations who lived here and beyond, finding their own sense of place in history.

The following images are from the final presentation.

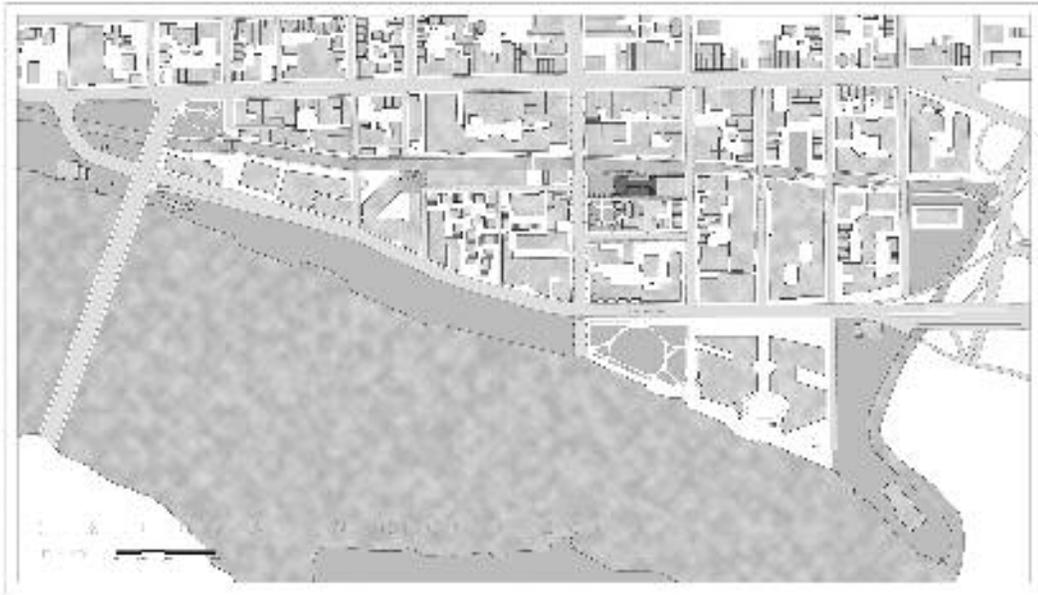


Figure 55 Figure ground of the C & O Canal and Genealogy Building



Figure 56 Site Plan of the Genealogy Center and its relation to the Church yard

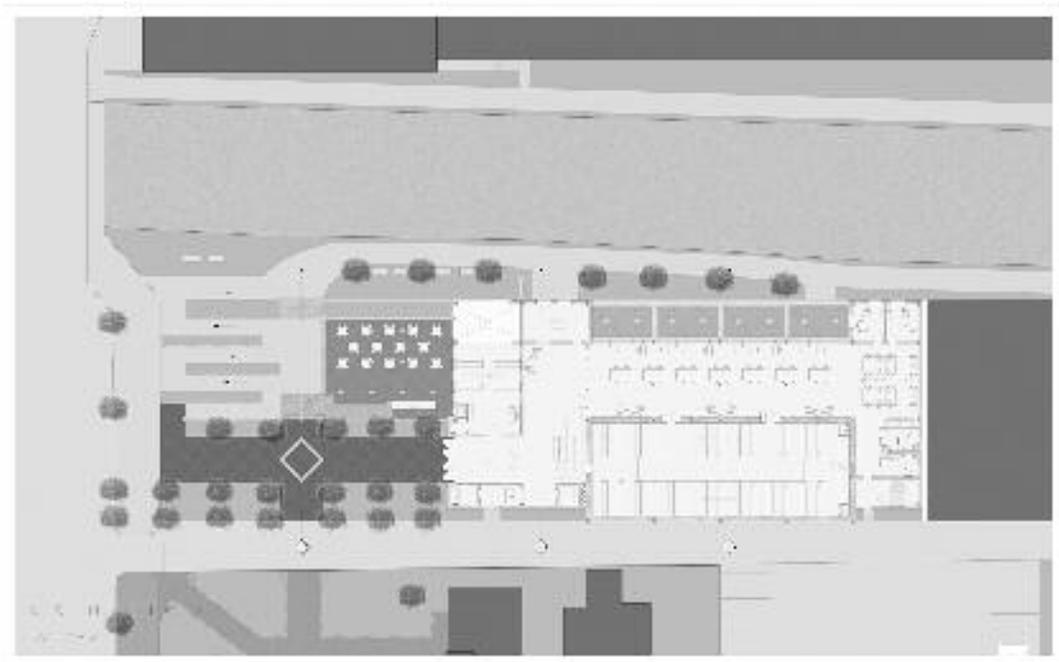


Figure 57 Wisconsin Avenue Floor Plan

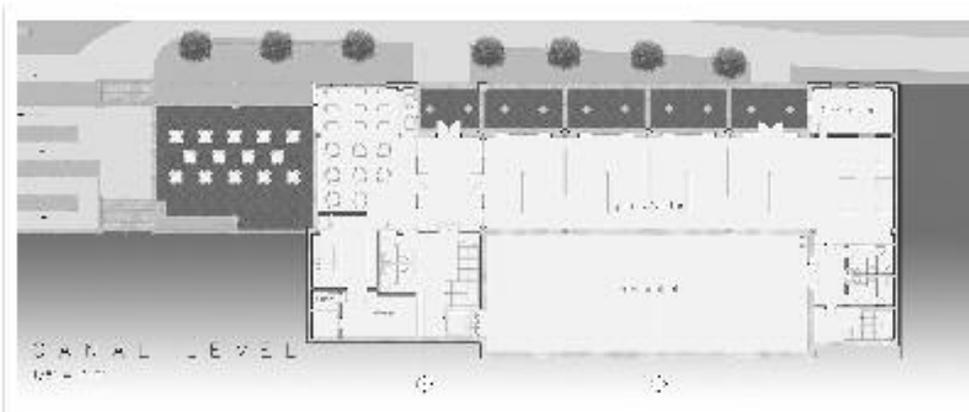


Figure 58 Canal Level Floor Plan

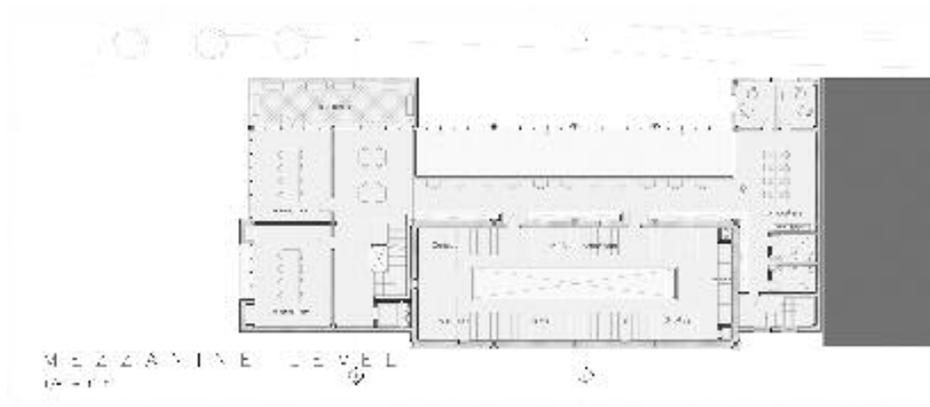


Figure 59 Mezzanine Floor Plan

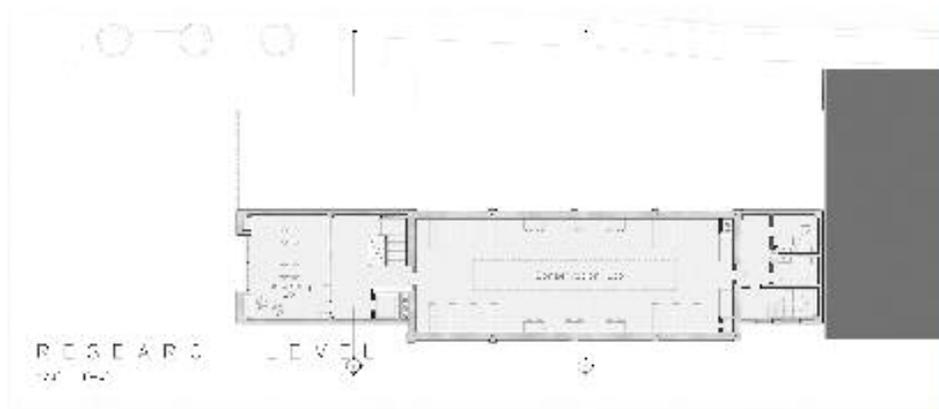


Figure 60 Research Level



Figure 61 Wisconsin Avenue Elevation



Figure 62 Canal Elevation



Figure 63 Section Two



Figure 64 Section Three

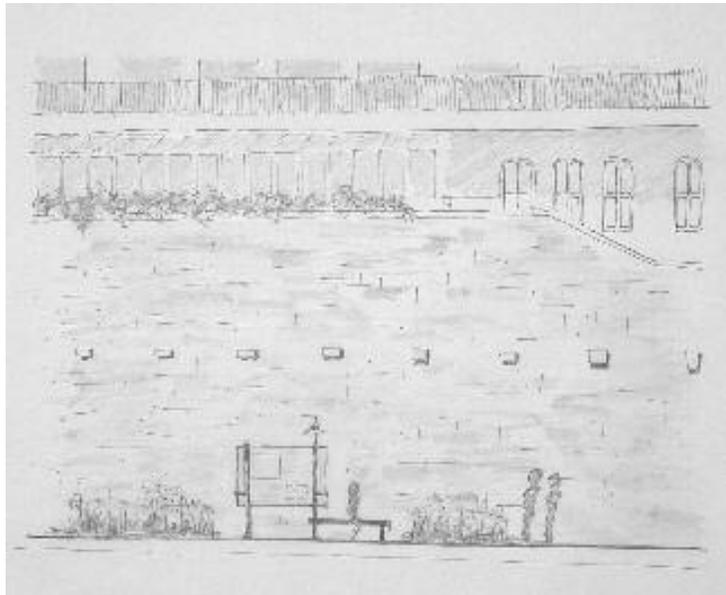


Figure 65 Interpretive Sign along the Towpath

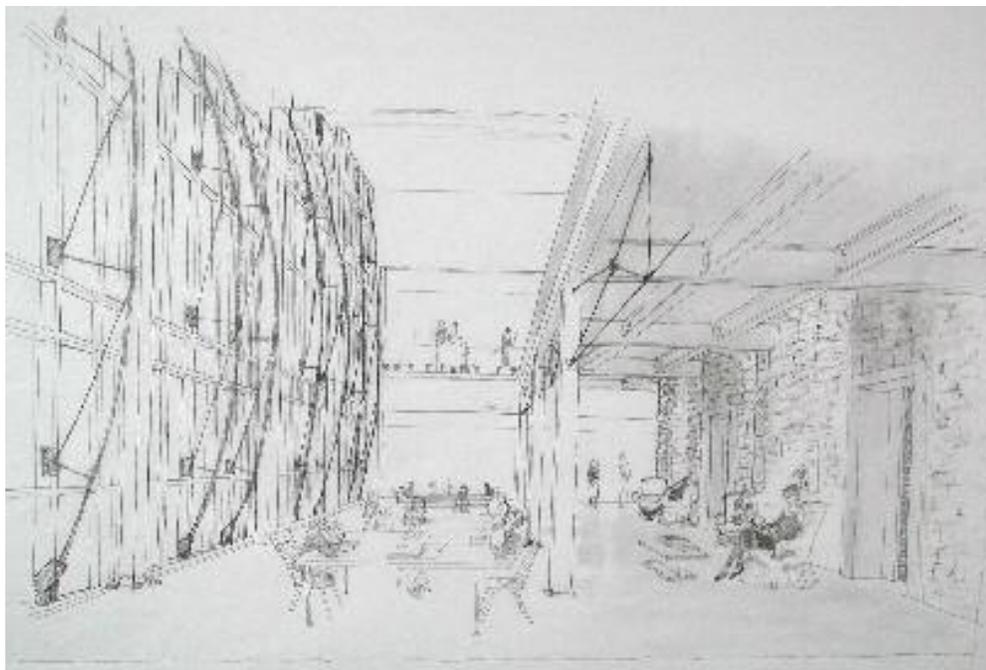


Figure 66 Interior Perspective of the Reading Room



Figure 67 Perspective from the Towpath

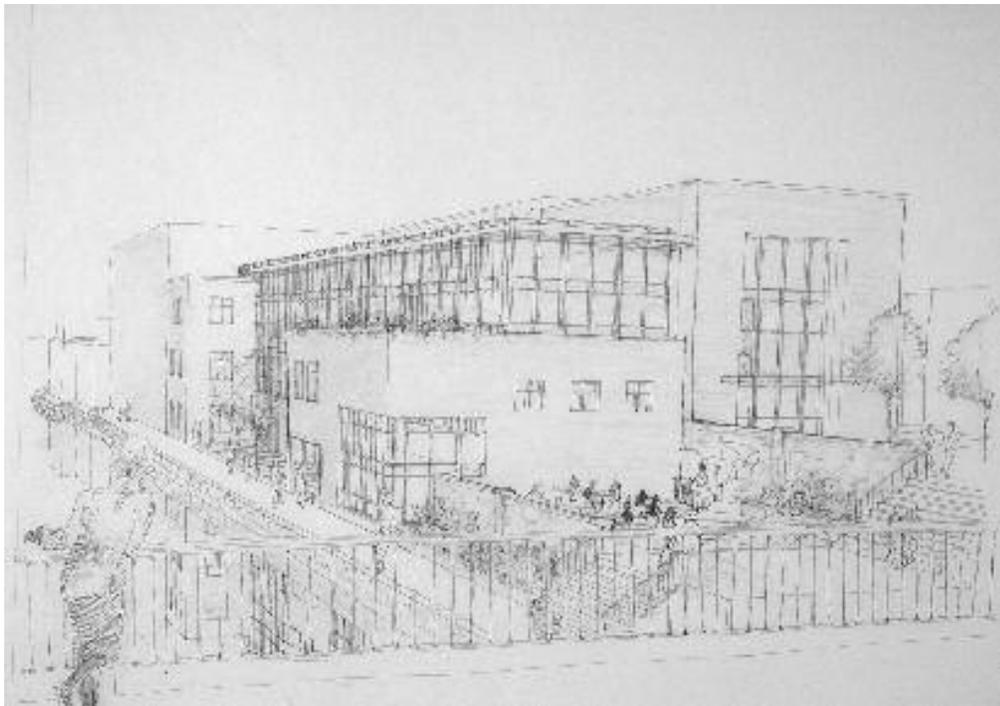


Figure 68 Perspective from the Wisconsin Avenue Bridge



Figure 69 Model from the Wisconsin Avenue Bridge

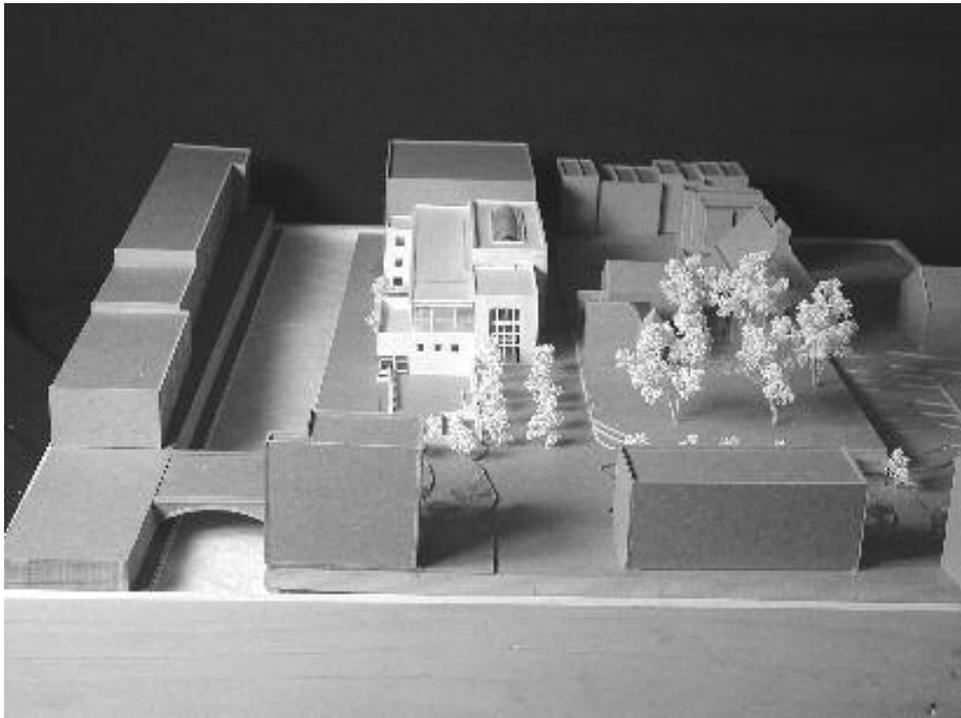


Figure 70 Model from Wisconsin Avenue



Figure 71 Model from the C & O Canal

APPENDIX 1: Georgetown Inventory of Historic Sites

Chesapeake and Ohio Canal National Historical Park

Along C&O Canal from Rock Creek to D.C. boundary (extends into Maryland)

One of the nation's most intact 19th-century canals, preserved in a continuous 185-mile natural setting; primary Potomac Valley commercial artery during mid-19th century; focus of 20th century conservation efforts for its historical, natural, and recreational value; major features in D.C. include 5 miles of canal and towpath, 4 locks, remains of Potomac aqueduct and incline, Wisconsin Avenue bridge, portions of other roadway bridges and footbridges, various stone roadway and waterway culverts, wasteweirs, and spillways (1830-31 with later alterations); also Abner Cloud House (stone farm house, two stories plus basement, wide end chimney, built 1801, restored 1976-78) and B&O railroad bridge at Arizona Avenue (c.1906); National Monument designation 1961, NR listing 10/15/66 (documented 8/9/79), NHP designation 1971, DC designation 1/23/73; within Georgetown HD and Potomac Gorge

Georgetown Commercial Buildings, M Street and Wisconsin Avenue

2803, 2919, 3056, 3068, 3072, 3112, 3116, 3209, 3211, & 3232 M Street, NW;
1216, 1219, 1221, 1249, 1304, 1515, 1517, 1522, 1524, 1527, & 1529 Wisconsin Avenue, NW

Built c. 1780-1820; DC listing 11/8/64; within Georgetown HD

Georgetown Custom House and Post Office

1221 31st Street, NW

Built 1857-58 (Ammi Burnham Young, architect); DC listing 11/8/64, NR listing 9/10/71; within Georgetown HD; US ownership

Georgetown Flour Mill: Bomford Mill (Pioneer Flour Mills)

3261 K Street, NW

Home of milling business established by Col. George Bomford (1782-1848), army ordnance expert and owner of Kalorama; built 1845-47 on site of 1832 flour mill (burned 1844); run by water power from C&O Canal, and in operation as cotton mill from 1847 until Civil War; converted to flour mill and enlarged c. 1883; operated as Pioneer Flour Mills until 1913; adjacent K Street flour mill built 1922 on site of 1847 flour mill
owned by Alexander Ray; DC designation 1/23/73; within Georgetown HD

Georgetown Historic District

Roughly bounded by Reservoir Road and Dumbarton Oaks Park on the north, Rock Creek Park on the east, the Potomac River on the south, and Glover-Archbold Parkway on the west. Remarkably intact example of a complete historic town; encompasses the area laid out as a port town in 1751 prior to the establishment of the District of Columbia, and later absorbed into the city of Washington; rich variety of residential, commercial, institutional, and industrial buildings dating from all periods; includes many of city's oldest buildings; narrow grid streets establish intimate scale in contrast to L'Enfant city; wide range of houses from simple frame dwellings to spaciouly landscaped mansions recording all social levels of the community; architectural styles are also varied, including Federal, Greek Revival, Italianate, Queen Anne, Romanesque, and Classical

Revival examples, as well as numerous vernacular structures; approximately 4000 primary buildings c. 1765-1940; established by Old Georgetown Act 9/22/50; DC listing 11/8/64, NR listing 5/28/67, NHL designation 5/28/67

Georgetown Market

3276 M Street, NW

Public market constructed on site used for market since c. 1795; built in 1865 on fieldstone foundations of earlier market c. 1796; original 40-foot section expanded later; DC listing 11/8/64, NR listing 5/6/71; within Georgetown HD; DC ownership

Georgetown Paper Mill: District of Columbia Paper Manufacturing Company

3255-59 K Street, NW

Built 1900-02; DC designation 1/23/73; within Georgetown HD

Georgetown Reservoir Gatehouse: Castle Gatehouse, Georgetown Reservoir

Near intersection of Reservoir Road & MacArthur Boulevard, NW

Picturesque landmark constructed as part of turn-of-the-century improvements to the municipal water system; stands at the entry to the 4-mile water tunnel from Georgetown Reservoir to McMillan Reservoir; symbol of Army Corps contributions to city's public health; designed to resemble the 1839 insignia of the Army Corps of Engineers; built 1899-1901, restuccoed 1958; DC designation 1/29/74, NR listing 3/13/75

Georgetown Town Hall: Bank of Columbia

(Georgetown Town Hall & Mayor's Office; Fire Company No. 5)

3210 M Street, NW

Remnants of an early home of one of the nation's first banks (1793-1826), which was extensively involved in the city's early development, construction of the Potomac Canal, and U.S. government financing; built 1796, occupied by bank until 1806, then by U.S. Bureau of Indian Trade (1807-22), Georgetown Town Hall 1823-63), Lang's Hotel (1863-70), D.C government offices and storage (1871-83); largely reconstructed and refaced in 1883 to house Fire Company No. 5 (Peter Lauritzen, architect), which occupied until 1946; façade incorporated in new building 1983; 3 stories, flat brick facade with corbelled cornice, Queen Anne style entry doors, original Flemish bond brickwork on upper floors; DC listing 11/8/64, NR listing 5/27/71, removed from NR 4/6/83; in Georgetown HD

Georgetown University Astronomical Observatory

Georgetown University

Built 1841-44 (James Curley, architect); DC listing 11/8/64, NR listing 7/2/73; within Georgetown HD

Georgetown Visitation Convent and Preparatory School

1500 35th Street, NW

Among the first Catholic girls' schools in America, and first in the United States (Georgetown Academy for Young Ladies), established by religious women in 1799; received first American charter of the Order of the Visitation in 1816; mother house for 13 convents; also housed Saint Joseph's Benevolent School c.1800-1918; associated with John Carroll and Leonard Neale, first U.S. Bishops; 14 contributing buildings built from 1819 to 1932; DC listing 11/8/64 (Chapel),

3/7/68 (Monastery and Academy Building), NR listing 3/29/91; within
Georgetown HD

- Benevolent School: Built 1819, enlarged as infirmary 1860
- Chapel of the Sacred Heart: Built 1821 (Joseph Picot de Cloriviere, architect); Classical Revival stucco facade with Ionic pilasters and bell tower; altered 1857
- Meat House: Built 1836
- West Academy Building: Built 1838 (Richard Pettit, architect)
- Saint Joseph's Benevolent School (Lalor House, pre-1843)
- Monastery South Wing: Built 1857 (Richard Pettit, architect)
- Main Academy Building: Built 1872 (Norris G. Starkweather, architect)
- Wash House (1891)
- Fennessy Hall (1923)
- Gymnasium (1934)
- Cabin

Godey Lime Kilns (Washington Lime Kilns)

Rock Creek & Potomac Parkway at 27th & L Streets, NW

Remains of manufacturing business established by William H. Godey; built in 1864, in operation until 1908; originally included 4 wood-fired ovens for making lime and plaster, using limestone shipped via the C&O Canal from quarries near Harper's Ferry; DC designation 5/22/73, NR listing 11/2/73; within Rock Creek & Potomac Parkway; US ownership

Thomas Sim Lee Corner

3001-3011 M Street, NW

DC listing 11/8/64; within Georgetown HD

Loughborough-Patterson House (Junior League of Washington)

3041 M Street, NW

Built 1801-06; DC listing 11/8/64; within Georgetown HD

John Lutz House (Aged Woman's Home)

1255 Wisconsin Avenue, NW

Built c. 1750; additions 1870 and 1872; DC listing 11/8/64; in Georgetown HD

From the Historic Preservation Division of the D.C. Department of Consumer and
Regulatory Affairs.

HD – Historic District

NR – National Register

NW – Northwest

BIBLIOGRAPHY

- (2000). Stephen Holl Sarphatistraat Offices. *GA Document*. n. 63: 38.
- Beauchamp, Tanya Edwards. (1998). *Georgetown Historic District Brochure*.
Georgetown Heritage Trust. Washington, D.C.
- C & O Canal Association Website. <http://www.candocanal.org/>
- Calvino, Italo. (). *Invisible Cities*.
- Camden Market Website. <http://www.camdenlock.net/canmarket/index.html>
- Capital Crescent Trail Website. <http://www.cctrail.org/>
- Chesapeake and Ohio Canal National Park Website. <http://www.nps.gov/choh/>
- Cotelo, Victor Lopez. Vaqueria Carne de Abaixo. *Revista do Colexio Oficial de Arquitectos de Galicia*. p. 56.
- Dawson, Layla. (2002, January). Hanseatic Restoration. *Architectural Review*. v. 211
n. 1259: 34.
- Ecker, Grace Dunlop. (1951). *A Portrait of Old George Town*. Richmond, Virginia:
The Dietz Press, Inc.
- Ewan, Rebecca Fish. (2002, April). Creating a 'There' There. *Landscape Architecture*.
p. 85.
- Gandel, Cathie. (2000). *Jon Jerde Designing the Spaces Between in Japan*. Pasadena,
California: Navigator Press.
- Georgetown Planning Group. (1975, January 15). *Georgetown Waterfront Area Study*.
Recommended Development Plan and Program. For The National Capital
Planning Commission District of Columbia Department of Highways and Traffic.
- Georgetown University Website. <http://www.georgetown.edu/>

- Glassie, Henry. (2000). *Vernacular Architecture*. Philadelphia: Material Culture.
- Hahn, Captain Thomas F. (1980). *The C & O Canal Boatmen, 1892-1924*.
Shepherdstown, West Virginia: The American Canal & Transportation Center.
- Hammatt, Heather. (2002, January). Going with the Flow. *Landscape Architecture*.
p.73.
- Harris, Robert. (1969). *Canals and Their Architecture*. London: Hugh Evelyn Limited.
- Heller, Dan Website <http://www.danheller.com/london-butlerswharf.html>
- Historic Preservation Division of the D.C. Department of Consumer and Regulatory
Affairs website.
- Jacobs, Jane. (1960). *Death and Life of Great American Cities*.
- Lewis, Peirce F. (1979). Axioms for Reading the Landscape: Some Guides to the
American Scene. In Meinig, ed. *The Interpretation of Ordinary Landscapes:
Geographical Essays*. New York: Oxford University Press. p. 11-32.
- Library of Congress Website <http://memory.loc.gov/>
- London Website <http://www.london-se1.co.uk/areas/butlers.html>
- Lowenthal, David and Binney, Marcus. (1981). *Our Past Before Us: Why Do We Save
It?* London: Temple Smith.
- Lowenthal, David. (1985). *The Past is a Foreign Country*. New York: Cambridge
University Press.
- Mansfield, Howard. (2000). *The Same Ax, Twice. Restoration and Renewal in a
Throwaway Age*. Hanover, New Hampshire: University Press of New England.
- Martin, Frank Edgerton. (2001, February). Making the River Connection. *Landscape
Architecture*. p. 62.

Mays, Vernon. (2001, March). A Walk Through Time. *Landscape Architecture*. p. 59.

Moore, Arthur Cotton. (1998). *The Powers of Preservation: New Life for Urban Historic Places*. Washington, DC: McGraw-Hill.

National Oceanic and Atmospheric Association Website. <http://nndc.noaa.gov>

National Park Service Website. <http://www.nps.gov>

Rumsey, David, Website. <http://www.davidrumsey.com/japan/>

Smith, Kathryn Schneider. (1989). Port Town to Urban Neighborhood: The Georgetown Waterfront of Washington, D.C. 1880-1920. Dubuque, Iowa: Kendall/Hunt Publishing Company.

Stephenson, Roger. (1992, September). Warehouse for the Software Age. *The Architects' Journal*. p. 36.

Wallace, Mike. (1996). *Mickey Mouse Architecture and Other Essays on American Memory*. Philadelphia, Temple University Press. pp.177-246.

Washington Biking Association Website. <http://www.bikewashington.org/canal/>

Washington Metropolitan Area Transit Authority Website. <http://www.wmata.com/>

<http://www.mdarchives.state.md.us/>

<http://www.afrigeneas.com/>

<http://www.ngsgenealogy.org/>

<http://www.newenglandancestors.org/>