

EMERGING PATTERNS OF ADAPTIVE RE-USE:
THE NEW AMERICAN HOUSE HOTEL

by

Linda A. Moody
B.A., Clark University, 1975



Submitted in partial fulfillment of the requirements for the degree of

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at the

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February 1984

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ABSTRACT

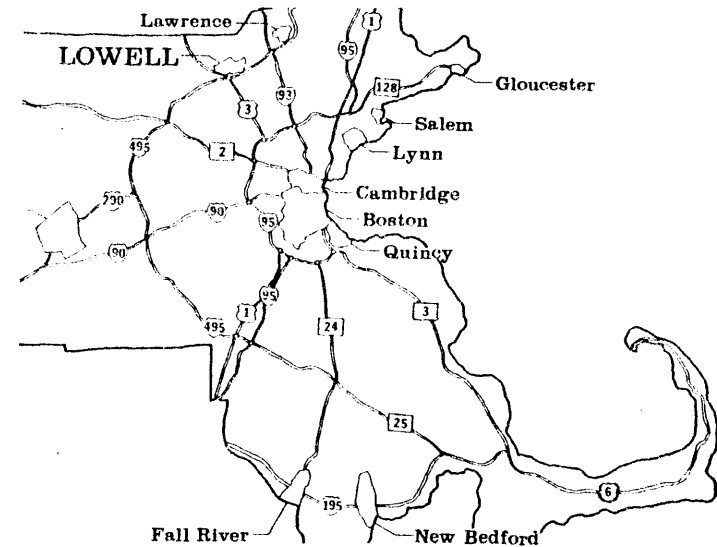
EMERGING PATTERNS OF ADAPTIVE RE-USE: THE AMERICAN HOUSE HOTEL

by Linda A. Moody

Submitted to the Department of Architecture on January 20, 1984 in partial fulfillment of the requirements for the degree of Master of Architecture.

Thesis Advisor: Rosemary Grimshaw
Instructor of Architecture

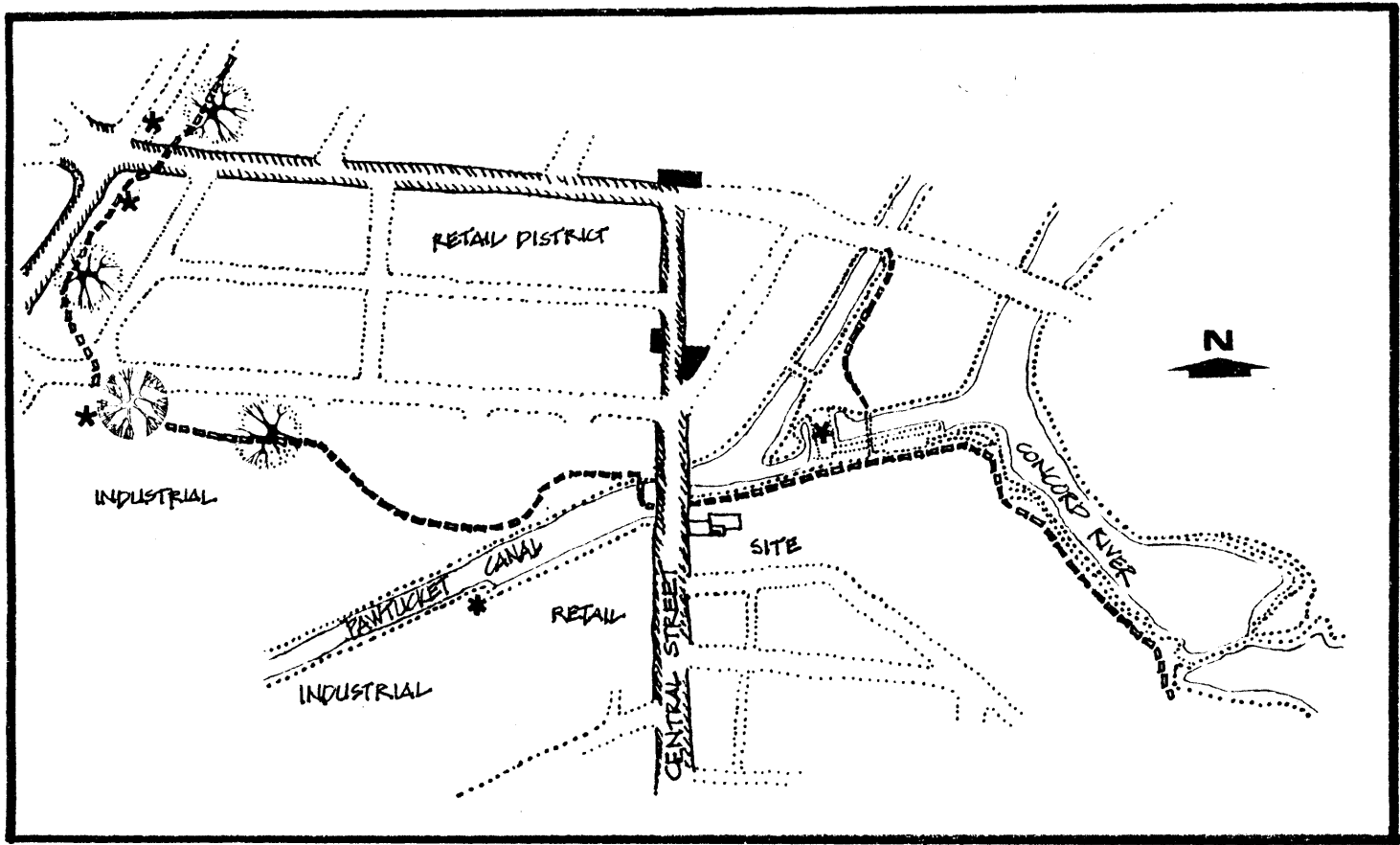
This thesis aims to develop a design solution for the adaptive reuse of the American House Hotel that answers an architectural design challenge with technical responses. The process of actualization has been pushed a bit farther than has been done in the preservation/rehabilitation field. The intent is not only to define the philosophical and experiential intent, and analyze and document the historical process, but also to produce sets of details, materials, and textures that can work.



The design issues, for once need, to take a back seat to the obvious complication of designing in harmony with an old structure. Specific answers are needed rather than just more questions. Some historical toes have been stepped on, but intent needed to be translated into a physical form--a possible solution to a design question. As in a realistic working world sense, a practical response needed to evolve quickly. The important steps to finding a method of approaching adaptive reuse will be of some use to those in need of a streamlined process; here one possible beginning is being explored.

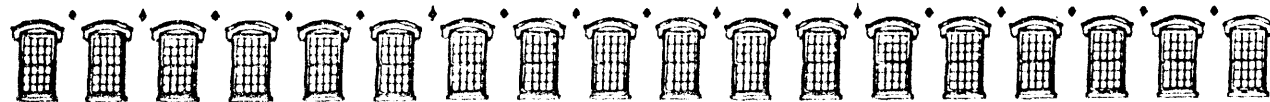
Potential of a pedestrian path linking historic sections of Lowell to the canal.

* HISTORICAL SITE	— PROMENADE
⊗ PARK AREAS	⋯ MINOR STREETS
▼ MINOR NODES	⋯ CANAL, RIVER
▨ MAJOR VEHICULAR STREET	

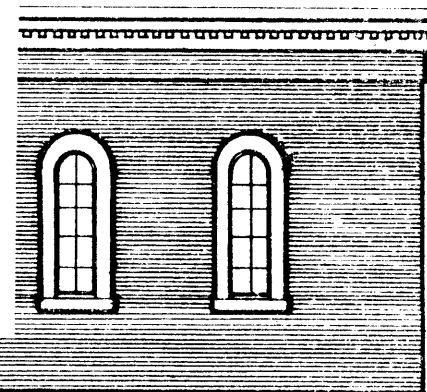
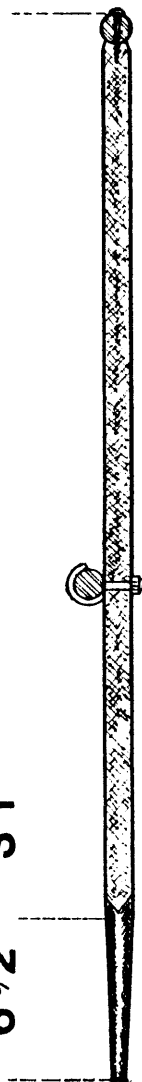


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6 1/2" 3'1"



Cast iron rail design of the 19th century.

Central Street, across from the site.

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Husband and friend, who made me believe in myself, and for his early morning typing, his late night editing, and his 24 hour love and unwavering devotion.

Serena Taplin

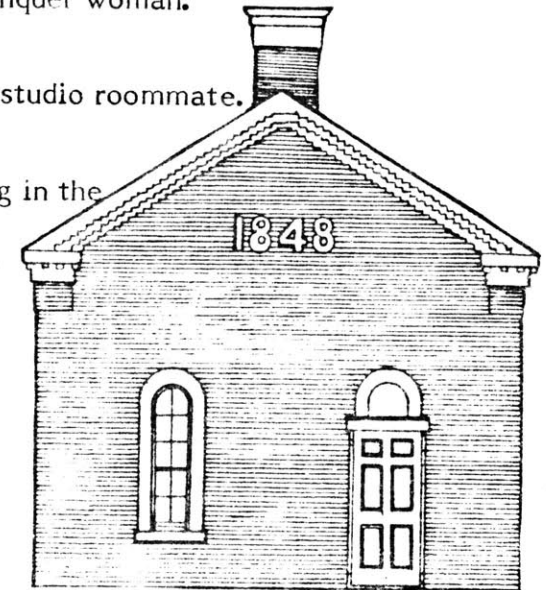
Friend, who proved that machine will never conquer woman.

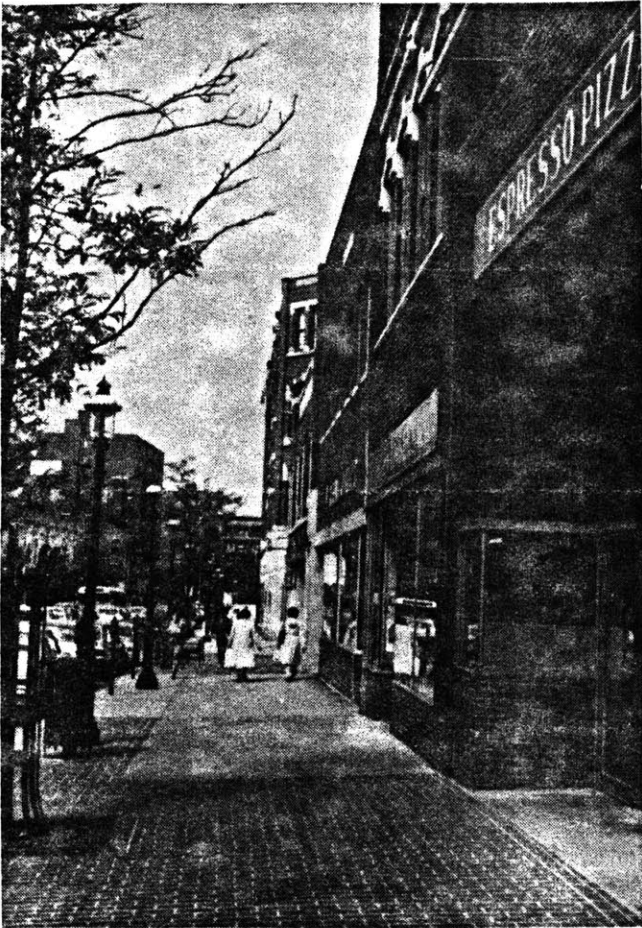
Pip, Dave B., Bob, Dave P.

Friends, for putting up with me as their thesis studio roommate.

Bill Barlow

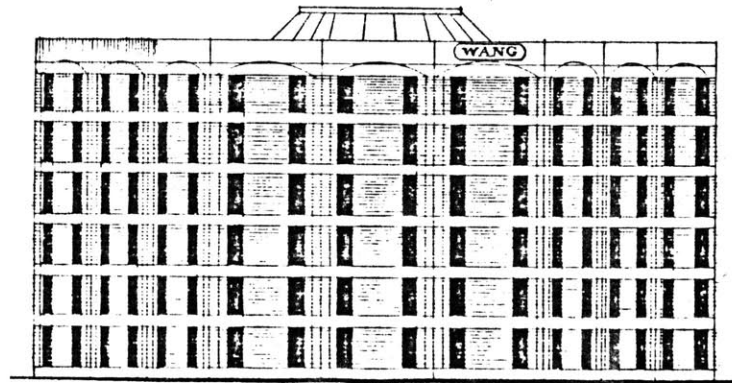
Reader, for some good solid advice and training in the reality of architecture.



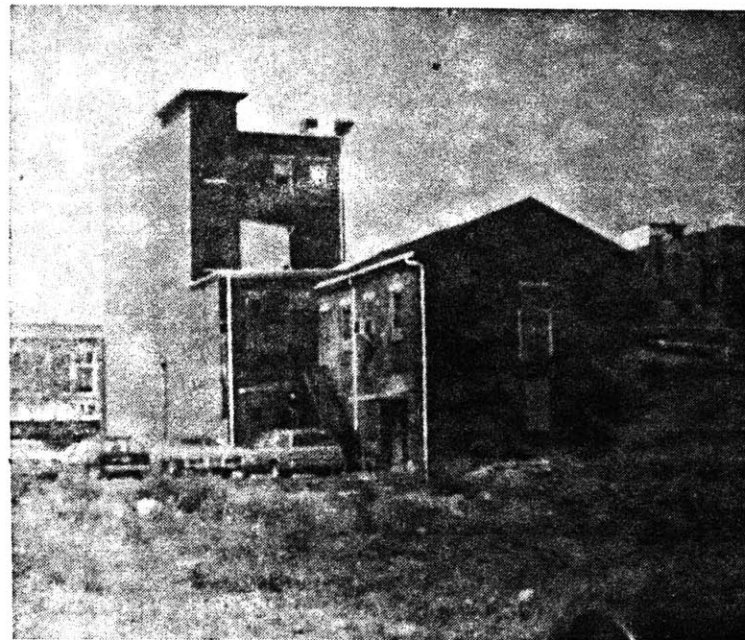


Central Street.

Existing east facade of The American House/Frye Tavern complex, presently the Lowell Hair Academy.



Proposed elevation of Wang Conference Center, across the Pawtucket Canal from the site.



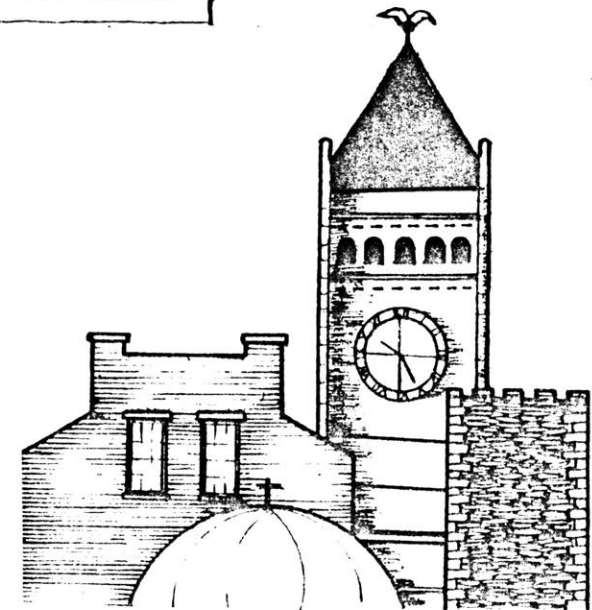
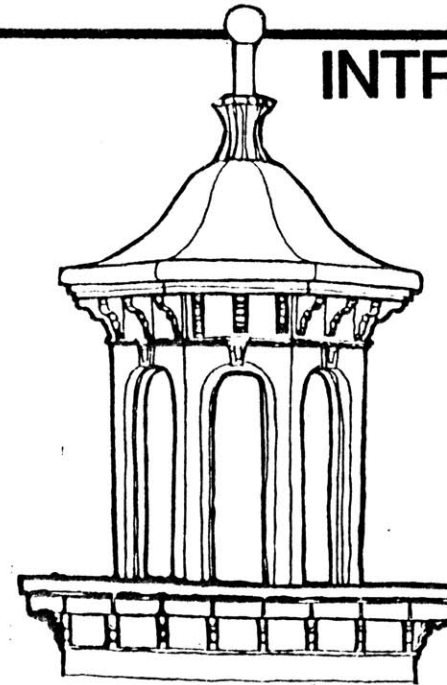
INTRODUCTION

This thesis is a study of architectural accretion and change. It is also a study of how context and experiential consistency can add to the sense of the inherited past of a city. Lynch says, in Managing the Sense of a Region, that,

Sensory quality is clearly related to the history of a place. Place character is the result of historical evolution and thinking. How to conserve or enhance that character is illuminated by knowing how it came to be and what historic forces still sustain it.¹

Blind repetition of what one person believes to be an important historical period is not to allow the essential ambiance, the special sensual quality of an area to emerge. Blatant preservation, without an analysis of evolution of use, new function, and new ways to put things together can stifle the maturation of the experiential forms.

¹Lynch, Kevin, Managing the Sense of a Region, Cambridge, Mass., MIT Press, 1976, p. 72.





Any in-depth analysis of a site must begin with an examination of the fundamental potential of that site:

- Documentation of sensate environmental qualities and spatial forms

- A study of the waterfront
- A study of potential collective spaces
- A study of the path potential in the area
- Identification of key issues of the present.

But more than this, when the historical context is introduced, the list expands. A study of what is happening now in the area needs to be looked at through the rose colored glasses of the past. The site is a focus of downtown redevelopment. It is a "demilitarized zone" between the forces of preservation and development.

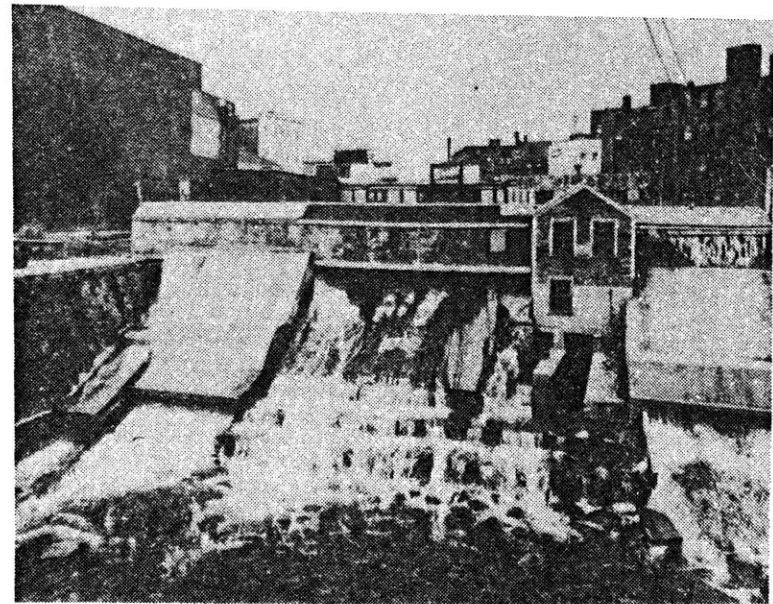
The building chosen as the design focus of this thesis becomes the pivotal point within this complex of rehabilitation, preservation, and new construction, that could serve as the connection to the developing historic sense of place in the Lower Locks Redevelopment scheme. This building, in no way a historic "gem", nor a developer's economic goldmine, has the possibility of escaping the rote preservationist's issues. It can be worked with an eye to restoration of the "sense" of the area in a way that is consistent with the activities and restoration/rehabilitation happening in Lowell. It deals with people orientation. It also deals with experiential

form taken seriously in its historic beginnings. There is a linking of the present to a past that is judged to be important. But more than that, there is a search for the essence of that past, in form and experiential consistencies, that helps the new and modern user recognize that there was an important time preceding this age. The essence was the result of an evolutionary process, and historic forces that are still in existence, and that are sustaining it.

To understand the reasons something came into existence in the past is to understand why that attitude can or cannot be reoriented now. In the architectural sense, new materials, new details, and new uses are dealt with, but within the old experiential qualities of the space. The experience of a place offers the consistency, the strand that links past and present and serves as a compatible connection with the past. The future is still a loose and flexible issue for the architect's (and the user's) imagination. Context is a relationship expressed through activities, spatial elements and systems, and is demonstrated symbolically and semantically as well as through literal historic preservation.



View of Hurd Street.

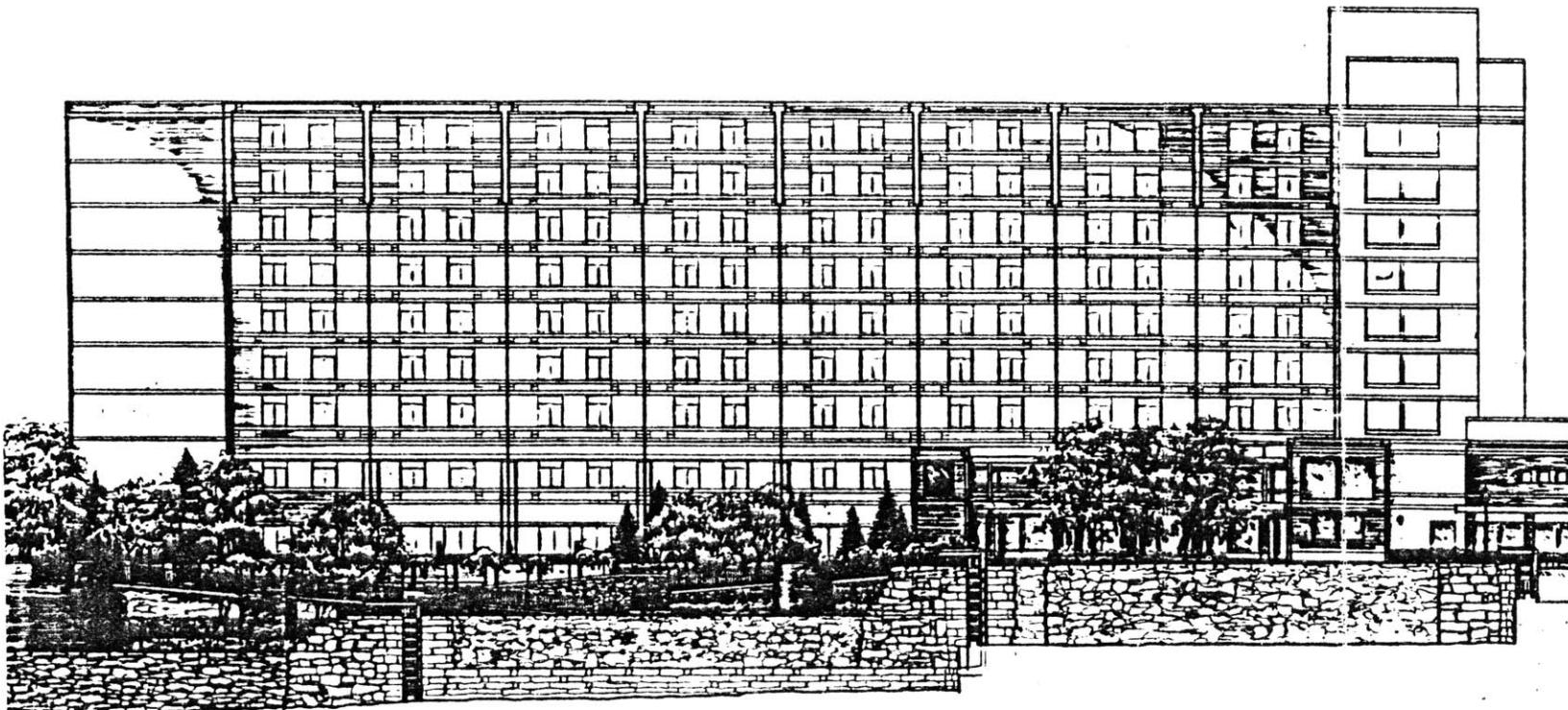


The Lower Locks Guardhouse on the Lower Pawtucket Canal.

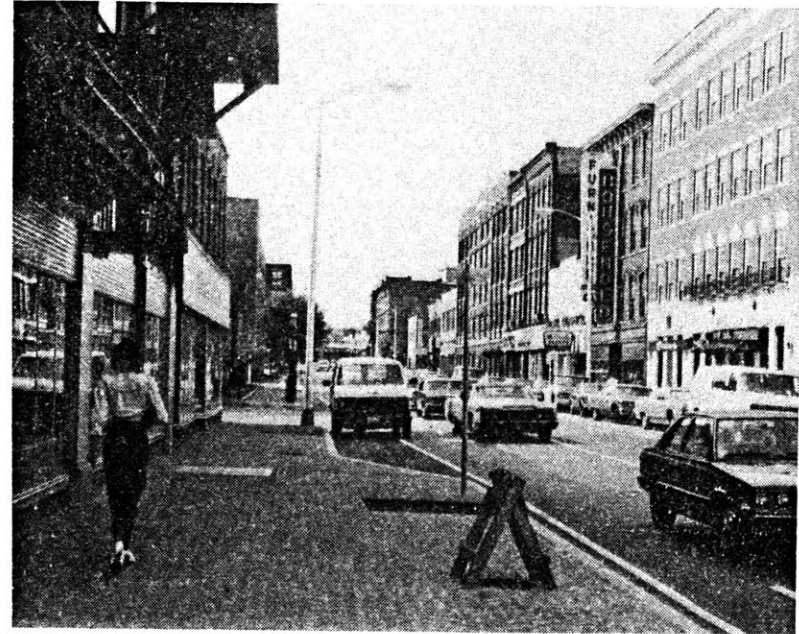
The American House Hotel is located on one of the main streets in the heart of downtown Lowell. Presently in use as a school for beauticians, it is a building symbolic of the evolution of time: both within itself and by its position in the Lower Locks Redevelopment Plan context. The Lowell Cultural Resources Inventory lists its construction date as 1841. The Frye Tavern (the rear part of the existing complex) was built before the 1820's establishment of Lowell.

Present activity in the area includes the construction of a 150 room Hilton Hotel behind the American House Hotel, the restoration of the Lower Locks Guard House on the Lower Pawtucket Canal adjoining the American House Hotel, and construction of a Wang Conference Center across the canal.

This thesis will focus on documentation of the existing neighborhood and of the existing structure

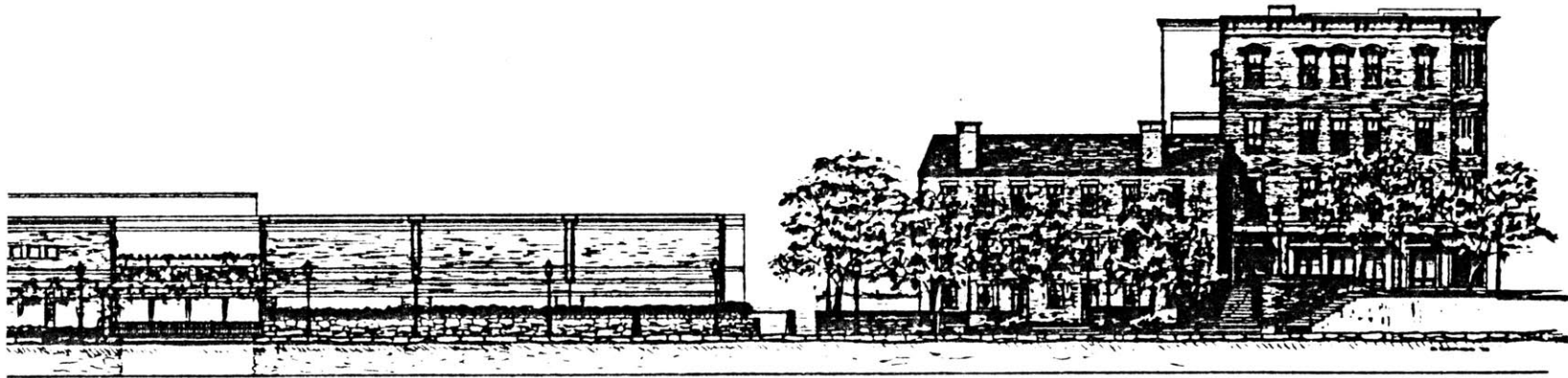


of the American House Hotel; production of a collection of design options for rehabilitation of the existing hotel and construction of an addition on the adjacent lot; production of details derived from the language of the existing building and surrounding area; and development of one new comprehensive design for reuse of the American House Hotel that is relevant to the pre-existing pattern. The intent of this thesis is to study and explore some practical design relationships for new buildings in historic settings and to gain some understanding of how a methodology might be derived to give real estate development a footing in contextual and sensate reality.



View of Central Street.

Lower Locks Redevelopment Plan, canal edge, proposed Hilton, and The American House Hotel/Frye Tavern complex (right). (Lowell National Historical Park)





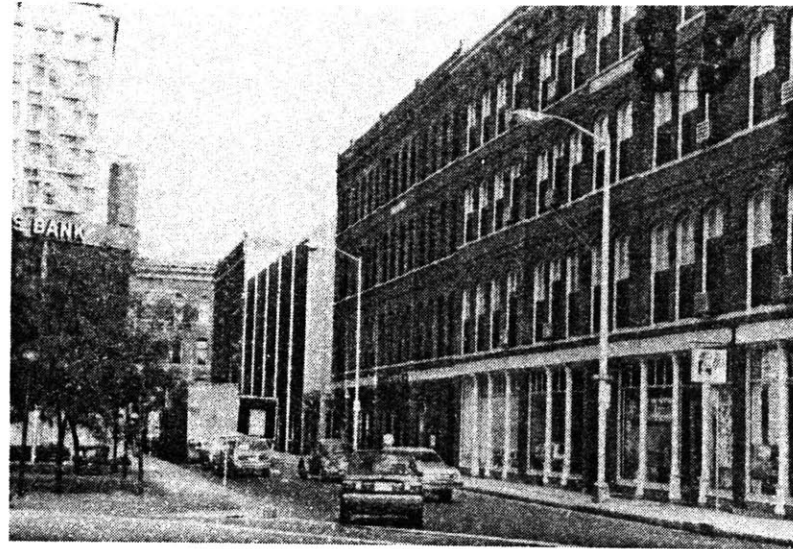
Gray and Fiske Buildings, Central Street.



Bradley (Saab) Building, Central Street.



Hildreth Building, a recent restoration,
Merrimack Street.



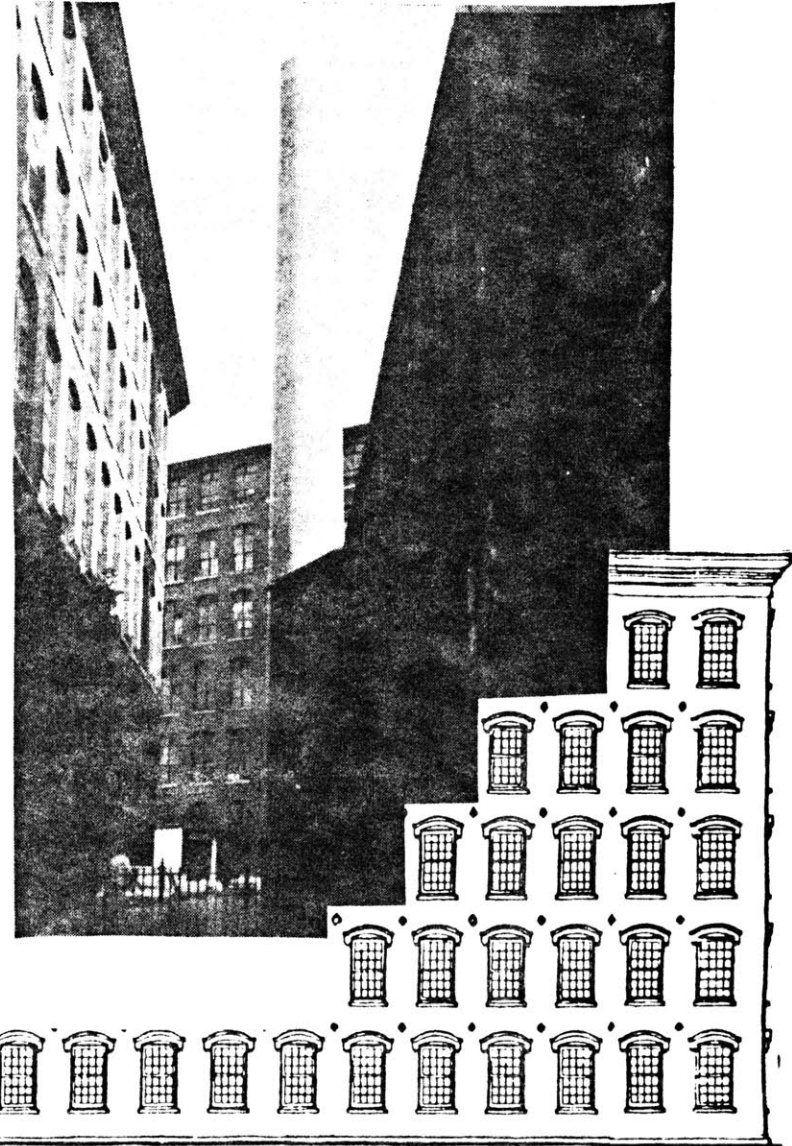
Prescott Street.

This thesis describes an approach to the redesign and reuse of an existing building that can be relevant to both the real estate development pressures of the modern world and the preservation issues of the historic context.

The thesis is developed in three phases. Phase I deals with spatial form analysis and documentation of what now exists on the site and in the surrounding area. Traffic, sensual environmental qualities, and spatial forms there now are documented and serve as the basis for the first design option developments.

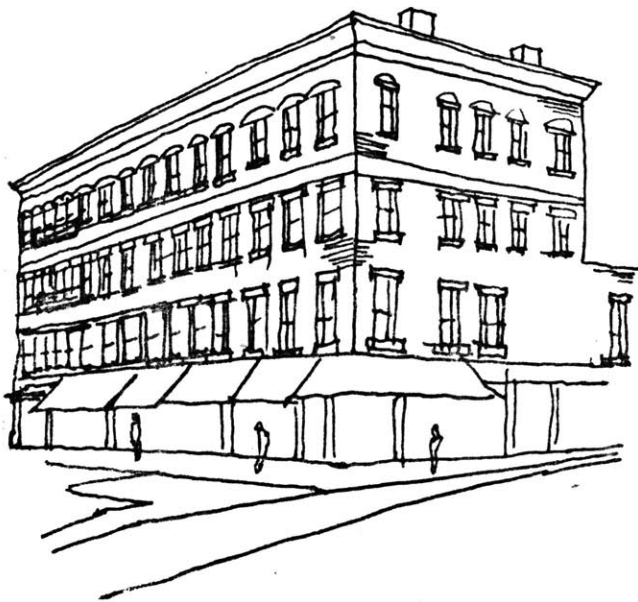
The waterfront and its potential for connection between Central Street and the Lower Locks area and beyond, is studied, as well as the potential for increased pedestrian use of the area. Emphasis is on the historic uses of the area and its ambiance in the late 1800's. Its importance as a source of mill power and transportation linkage is explored as a critical factor in the design development phase. The path potential of the area is studied with sequential photos and drawings of space patterns at many scales.

METHOD

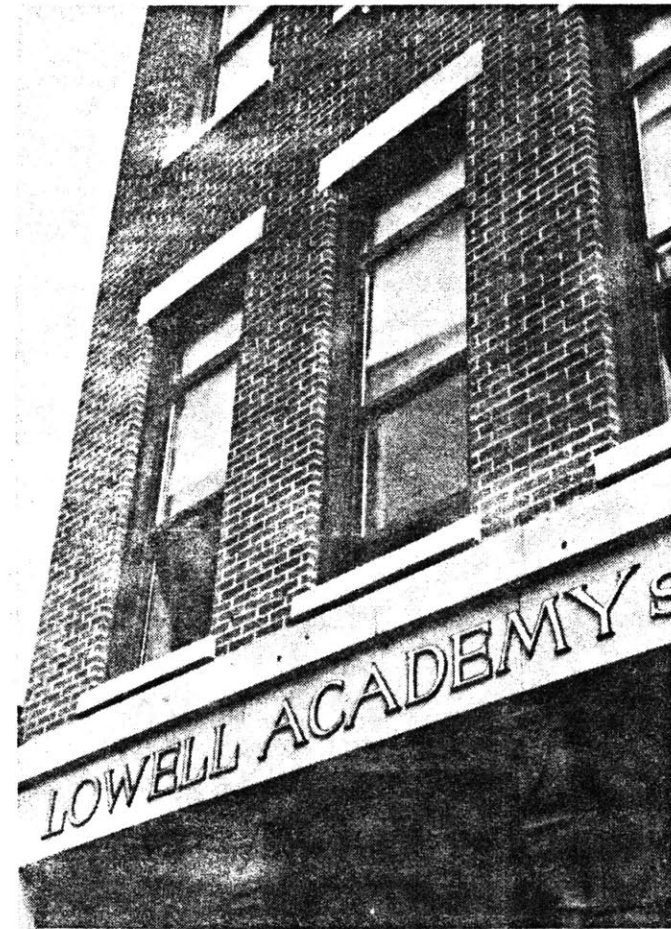


Talks with local store proprietors, the present owners of the building, the Lowell National Historical Park, and the Lowell Historic Preservation Commission identified certain key issues in the neighborhood. The "Master Plan" by the Lowell Team identified others.

Phase II begins with an in-depth examination of the American House/Frye Tavern complex. Plans, sections, and elevations of the existing building at quarter scale form the foundation from which to extrapolate future work.



1900 view of The American House.

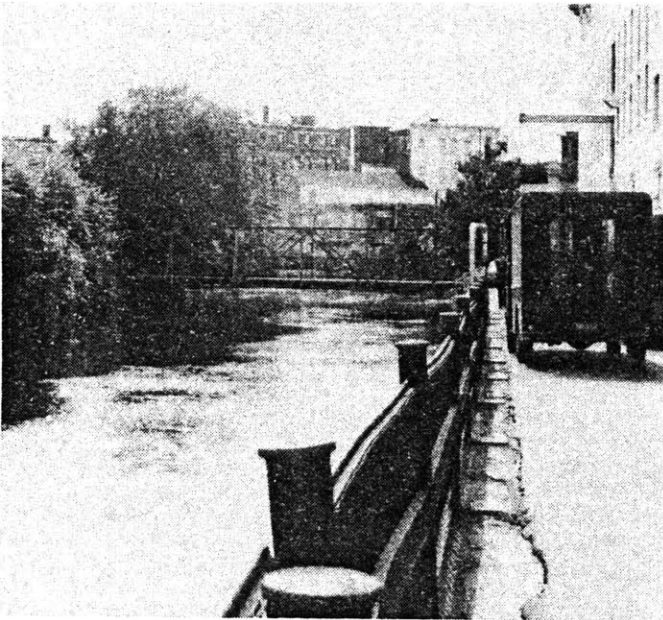
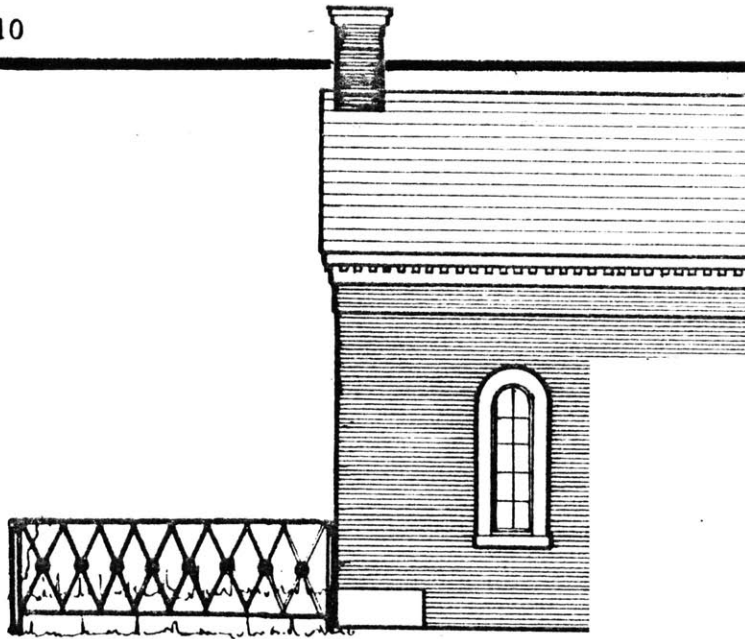


The Lowell Cultural Resources Inventory provided historic photo documentation of the building and surrounding area through the years showing the changes that have taken place. Documentation of the contextual details of the surrounding



neighborhood progresses with sixteenth scale drawings of the street edge and of the new Hilton Hotel and Wang Conference Center. Restoration of the Lower Locks Gatehouse is planned by the Historical Park and these plans for development of the area are taken into account. A thorough study of the proportion, materials, ornamentation, uses, etc. is made of the region to determine appropriate

contextual references. Volume studies are done and an analysis of the potential of existing structural framework pursued these questions: What is this existing framework and how can it be used or extended to apply to the new addition, or even to the hotel, conference center, and park renovation? Are there elements that can be used repetitively and consistently throughout? A very specific program is



Pedestrian bridge over the Pawtucket Canal.

developed and plan options developed from the amalgam of issues explored so far.

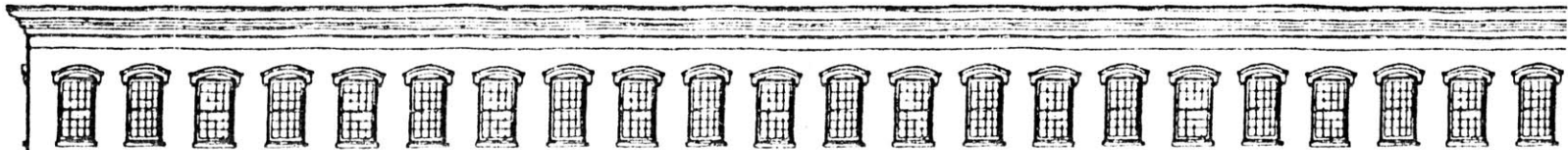
Phase III takes one of these design options and develops it further with plans, sections, elevations and detail studies. How can what is there be renovated to new uses? How do framework and program intertwine? How can the structural shell or framework be extended to new relevant uses? How does the new develop its own unique ambiance without being in competition with the old? How do we delicately and discretely gather clues from the old and historic without replication of these old elements indiscriminately? How do we extrapolate the historic individual qualities of the area, but allow for a modern metamorphosis of use, economy, and aesthetics?

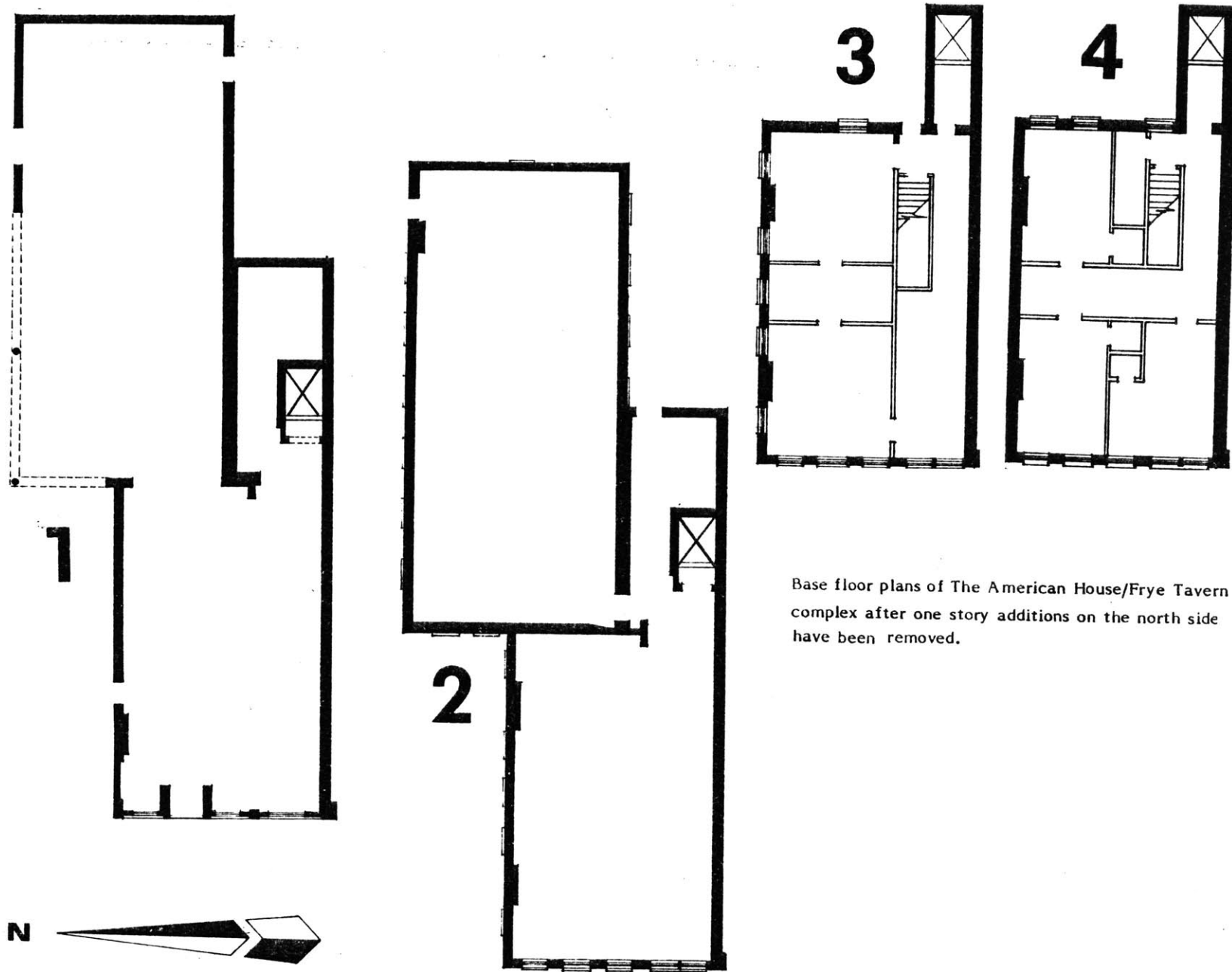
Most of the work of this thesis concentrates on the latter: on examining the potential solutions to the juxtaposition of new and old and measuring the success of the product. What kind of dichotomies can be successful? How far can development proceed, and in what directions, to retain the flavor of the old? How or why is this sense of the history of a site recreated? Examination of many of the details of a

possible solution can begin to answer these questions. Phase III is a redefinition and architectural integration of the design development with a more educated guess, using the methodologies and explorations of the previous phases.

The specific tasks can be summarized as follows:

- An analysis of the existing site and surrounding area including environmental, historic, and contextual studies.
- Development of a methodology of reuse.
- Documentation of the American House/Frye Tavern complex.
- Design of a renovation of and addition to the American House/Frye Tavern complex with an emphasis on detail drawings to test the juxtaposition of old and new and the success of the methodology.





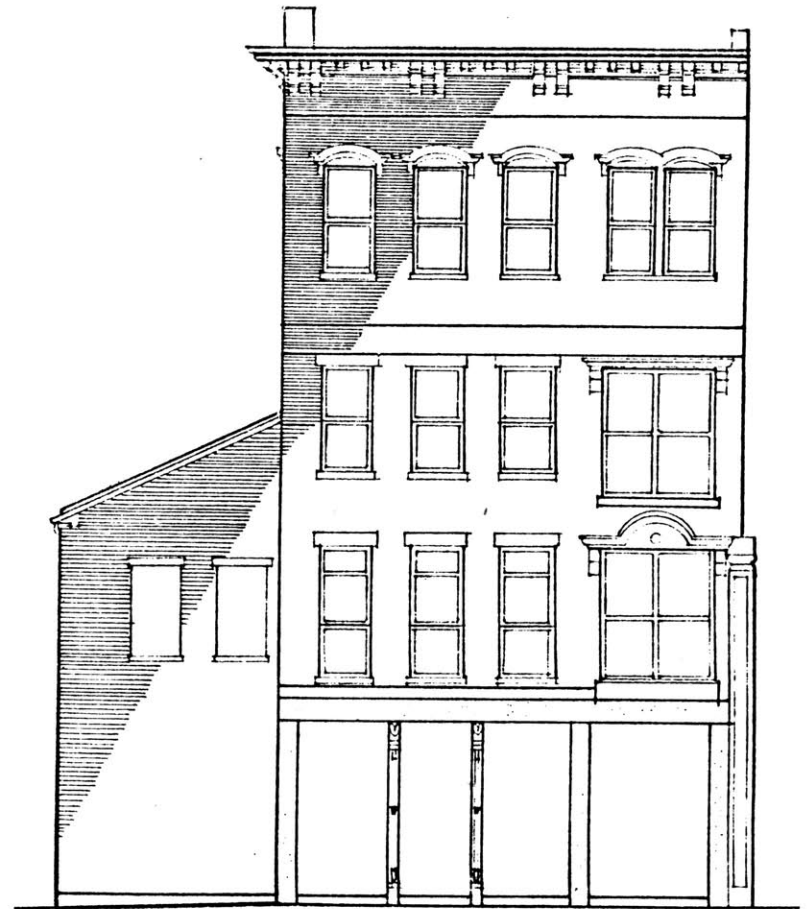
Base floor plans of The American House/Frye Tavern complex after one story additions on the north side have been removed.

BEGINNINGS – FIRST THOUGHTS

This thesis began with a measured documentation of the American House Hotel and Frye Tavern. Plans, sections and elevations of the existing structure at quarter inch scale were drawn. Documentation of traffic patterns and sensual environmental qualities, and an analysis of spatial forms revealed areas of special note: natural "nodes" to be accentuated, textures to highlight, the light on which to capitalize, and the views to heighten.

A photo sequence study helped to document the site as seen by car, by foot, or from the water. Visual connection of water, path, and street were then explored, as was circulation potential through and around the site.

A study of the potential for forming a town square, a yard (of old mill type), or a promenade along the canal was done. Some sketches of how the open spaces could form a necklace of jewel-like green or open spots along the path of the city were done. A drawing of the classic space sequences in Lowell and the new Lower Locks Redevelopment area showed the potential of bringing to life certain





already existing connections. Talking to the store proprietors and the present owners of the building helped define neighborhood concerns.

Contextual details of the neighborhood were an exercise in the proportioning common to buildings already in existence. The hypothesis was that doing such an analysis might reduce a neighborhood of great complexity and diverse styles to a coherent and unified whole was the intention. Certain design attitudes that might help focus the design process were sought out. These assumptions helped to develop the conscience of the architect more fully.

These were:

- That the neighboring buildings represent a series of discrete elements that can be unified into a larger whole.
- That a study of the restrictions and limitations in existence, defined by program and context, can actually streamline the design process, or in other words, limit the language of infinite possibilities with which an architect can deal.
- That metaphorical concepts, i.e., the theme

or the "image" of a building, can be derived from a distillation of the qualities of space that traditionally were successful and predominated through the years despite encroachment by modern technology, development, and devastation. The sense of the space is vitally important.

- That form decisions need to be based on circulation, safety, and structure, yet also based on that quality of a place that persists through history, if these qualities are indeed fundamental concepts.
- A foundation for design is derived from

contextual elements, proportion, and form decisions—not from the details of ornamentation.

- That architecture serves to enliven a place and complement the activities possible there. It is the Ying of the new to the Yang of the existing.



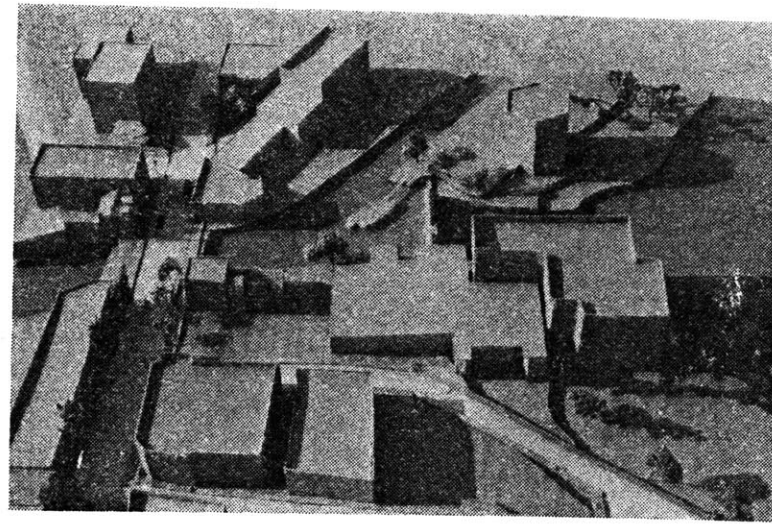
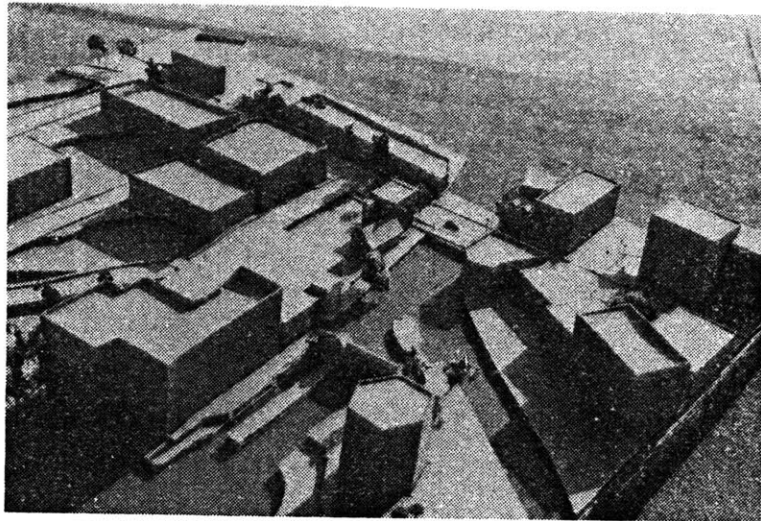
McGowan Block, Central Street, left.

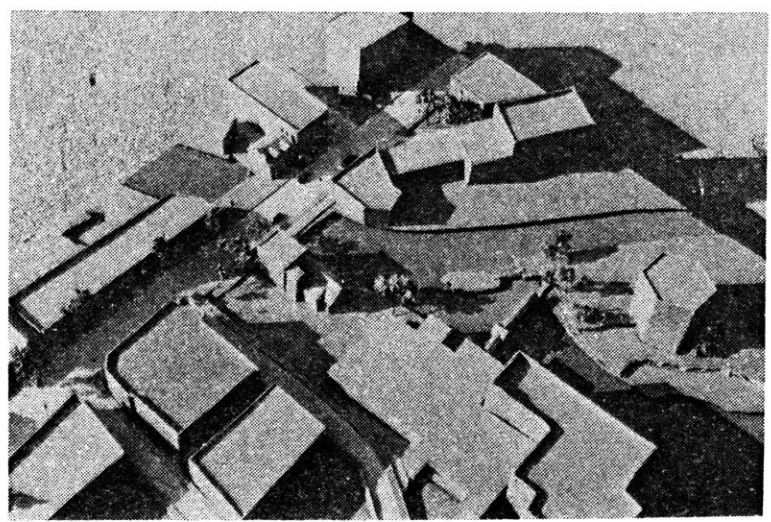
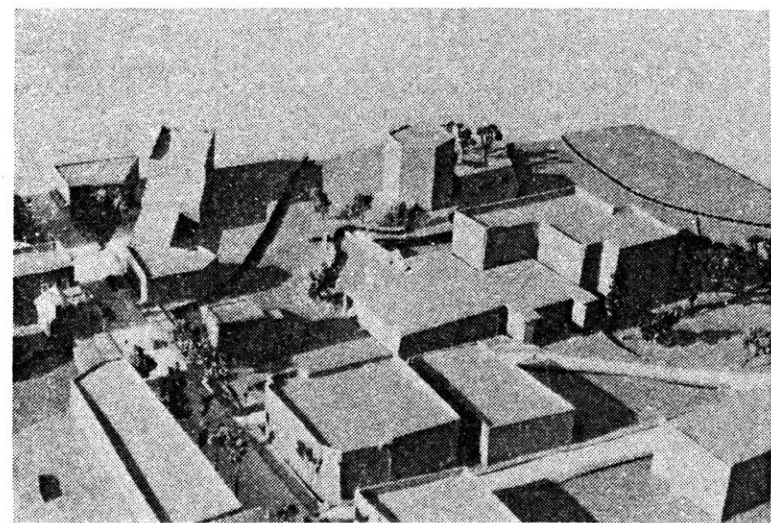
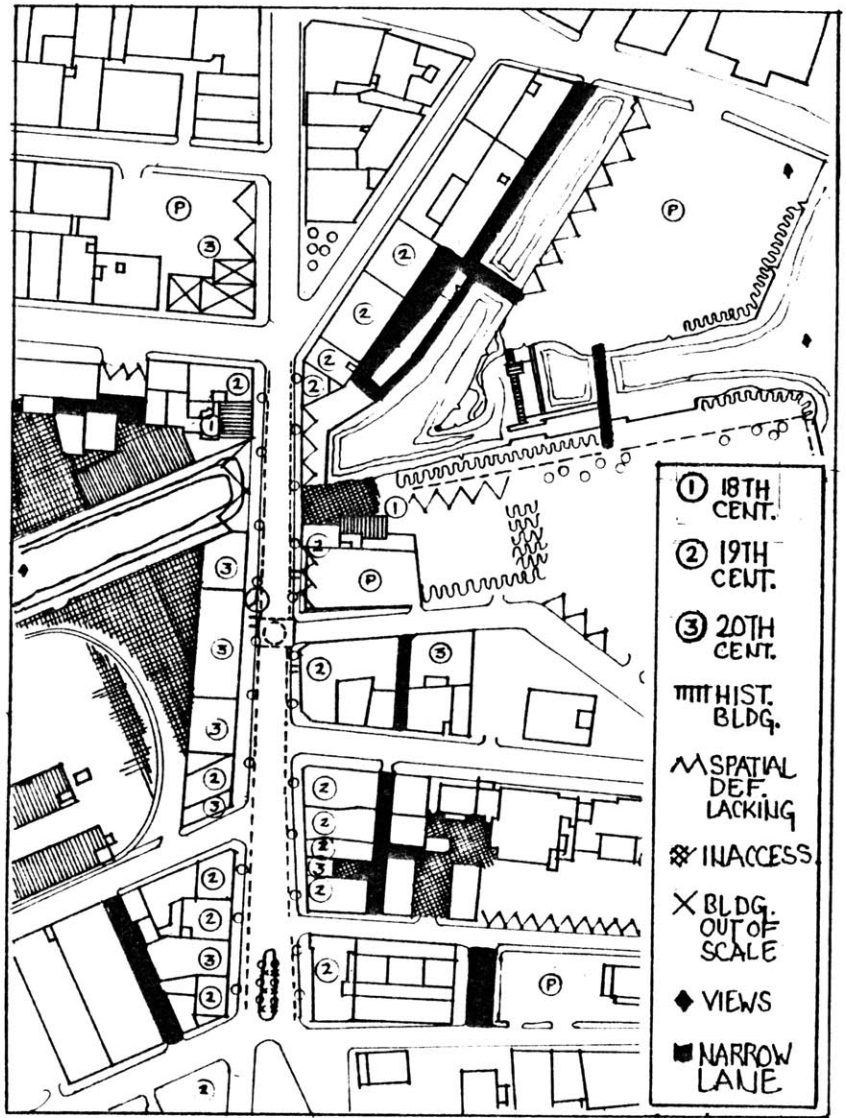
Gemarde Block, Central Street, right.

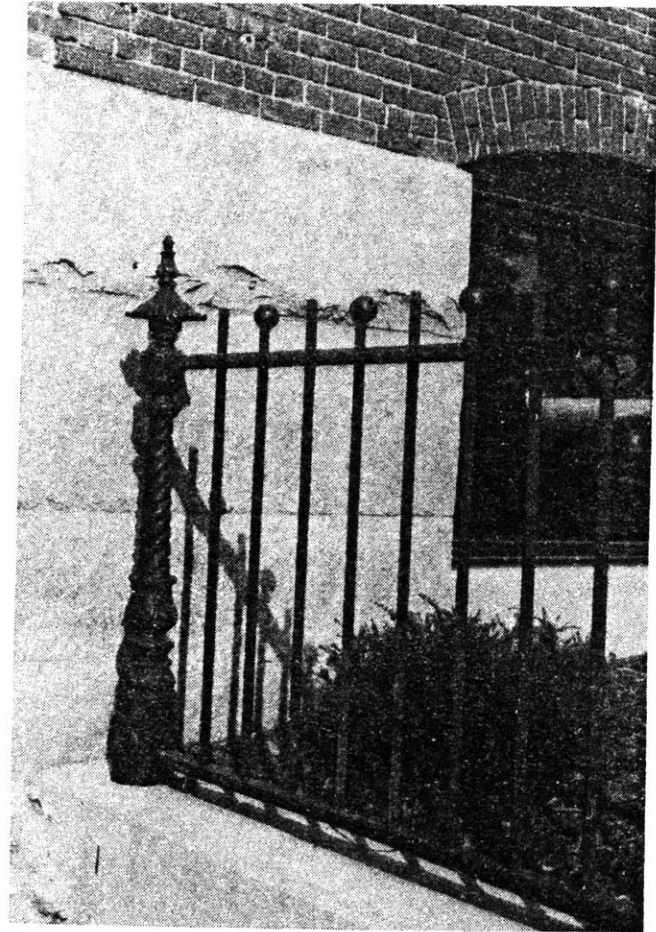
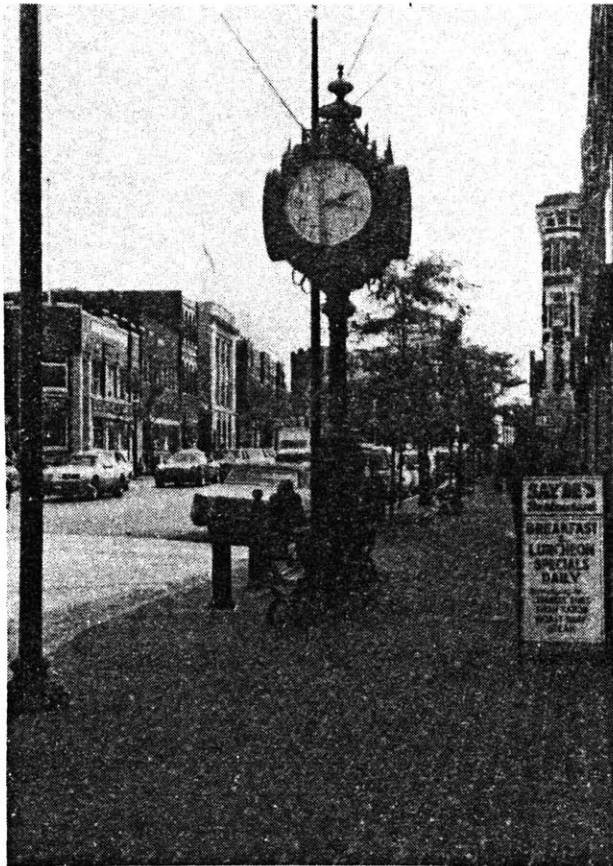
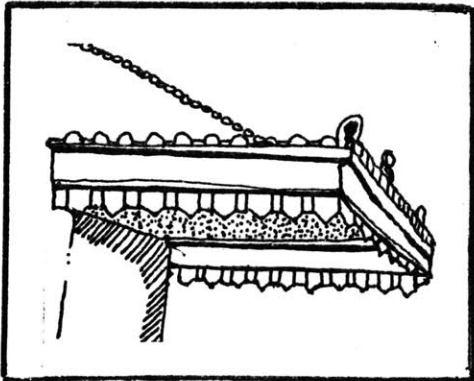
Appleton Block,
Central Street, right.

Site model, Central Street
and Pawtucket Canal area,
fortieth scale, below.
New Hilton and Wang
buildings are included.

Opposite page: site
analysis map, near
right, site model, far
right.







Copper canopy, Market Street.

Clock, Central Street.

Cast iron railing, Market Mills.

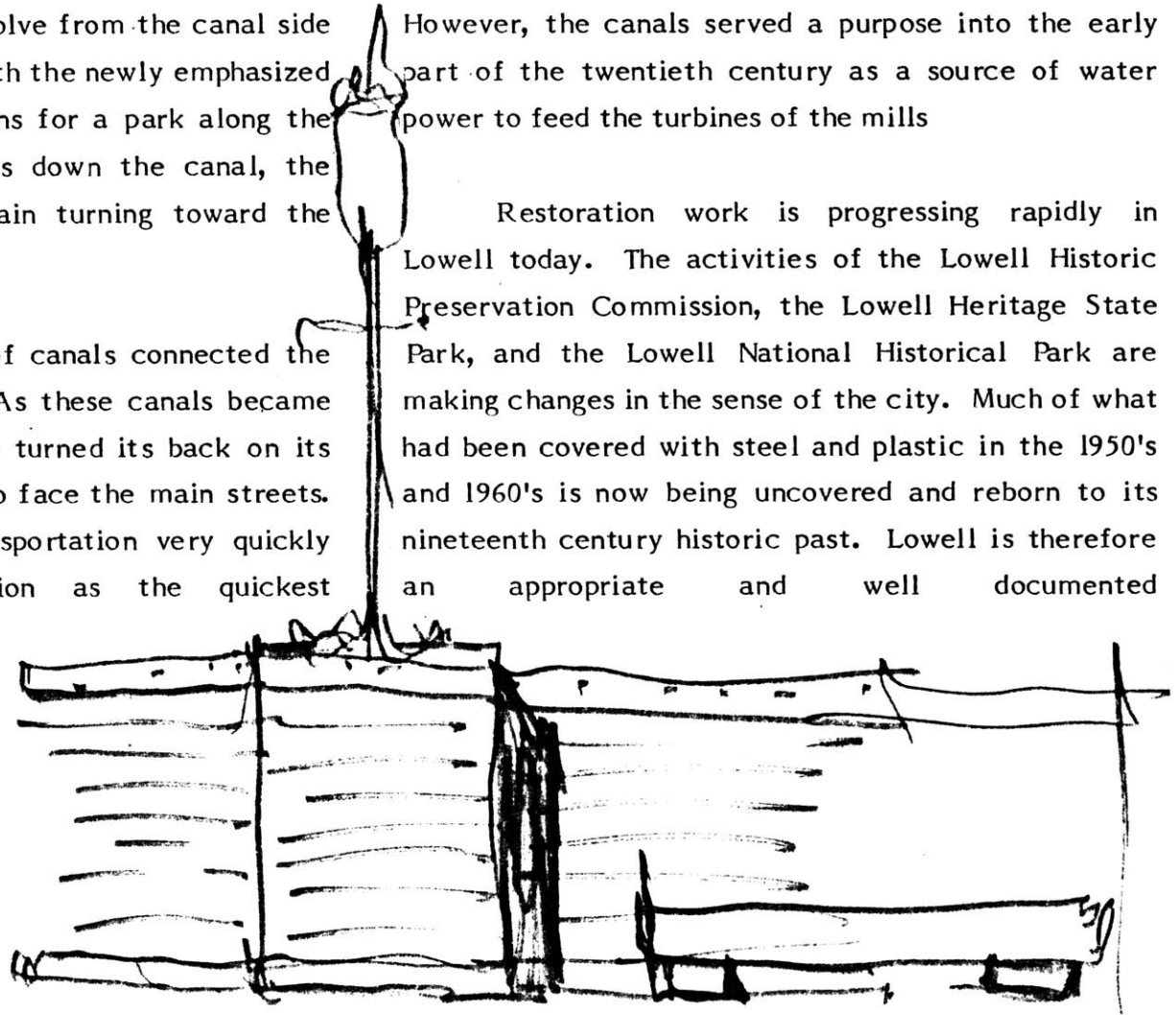
THE QUALITY OF LOWELL

The American House Hotel offers a unique example of the change in focus and history of a building within its lifetime. The building has little historic significance and is typical of a common Italianate commercial storefront. The building has had its primary orientation evolve from the canal side to the Central Street side. With the newly emphasized historic canal system, the plans for a park along the canal, and tourist barge rides down the canal, the primary interface area is again turning toward the water.

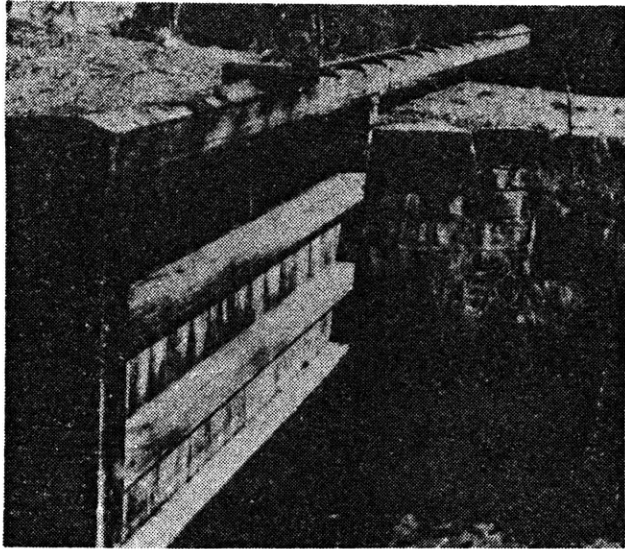
An intricate system of canals connected the industrial zones of the city. As these canals became increasingly polluted, the city turned its back on its water roadways and evolved to face the main streets. Railroad and automobile transportation very quickly replaced water transportation as the quickest

and easiest form of movement. The canals were antiquated as transport soon after they were built. However, the canals served a purpose into the early part of the twentieth century as a source of water power to feed the turbines of the mills

Restoration work is progressing rapidly in Lowell today. The activities of the Lowell Historic Preservation Commission, the Lowell Heritage State Park, and the Lowell National Historical Park are making changes in the sense of the city. Much of what had been covered with steel and plastic in the 1950's and 1960's is now being uncovered and reborn to its nineteenth century historic past. Lowell is therefore an appropriate and well documented



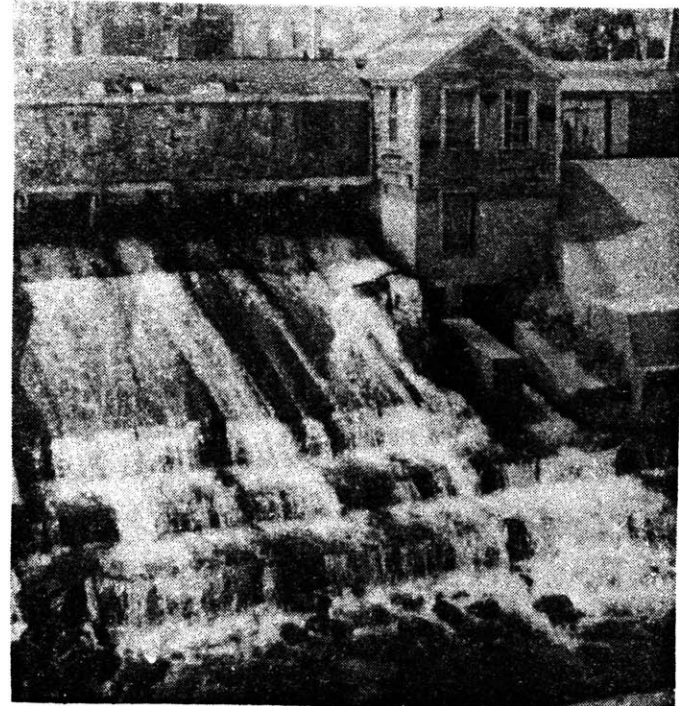
Transportation lock gate, Pawtucket Canal: Guard Locks.



example of several phases in the evolution of contextual framework and material forms.

With the creation of the federal Lowell National Historical Park with exclusive domain over development of the canal landscape and supporting structures, restoration of the canal system has begun. The canals are now cleaner and are the focus of much tourist attention. Guided tours on foot and by boat are given of the system. The city, unaware that it had been flushing its toilets down one of the wonders of the world, is now taking notice of the canals it so long neglected.

Real estate values along the canals are now escalating. Many buildings that had straddled the canals are now being removed to expose the beauty of the waterways beneath. An effort is being made to unify the existing exposures of the canal into one continuous element throughout Lowell. Urban parks are springing up. A hotel and conference center are locating along this new inner city pathway. What was the equivalent of an alley is now becoming a pedestrian connection.



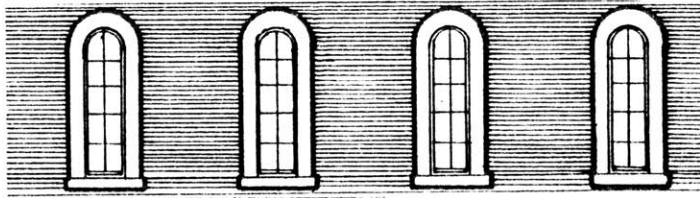
The Lower Locks guardhouse, dam and spillway.

The highlight of Lowell--the sense of the city--is intricately interwoven with its industrial past. Lowell's historic significance is closely intertwined with its creation and development as a total utopian industrial manufacturing system.

The Master Plan² developed for Lowell identifies these pieces of the historic fabric as being of primary importance:

1. Urban form is dictated by industrial needs: this includes location of various activities and the juxtaposition of use and scale.

2. Evolution of the factory as a building type.



²The Lowell Team, The Master Plan, City of Lowell, 1976, p. 196.

3. The development of energy systems for powering industry including hydropower, steam, gas, and electricity.

4. Symbols of an industrial society including clock towers, chimneys, name plates, engravings, cog-wheels, machinery, railroad spurs, trains, millyards, examples of management-worker hierarchy.

5. Ethnic heritage as expressed in the physical fabric including housing, restaurants, clubs.

The Lower Locks area offers a blend of many of these important features, but these symbolic elements described are not enough. We must look more deeply to the generation of the form. How and why were these vernacular forms born? Rebirth of



the sense of an area is more than a strategically placed clocktower or blind imitation of the past. It is an in depth exploration of the established patterns and a discovery of commonalities with the present.

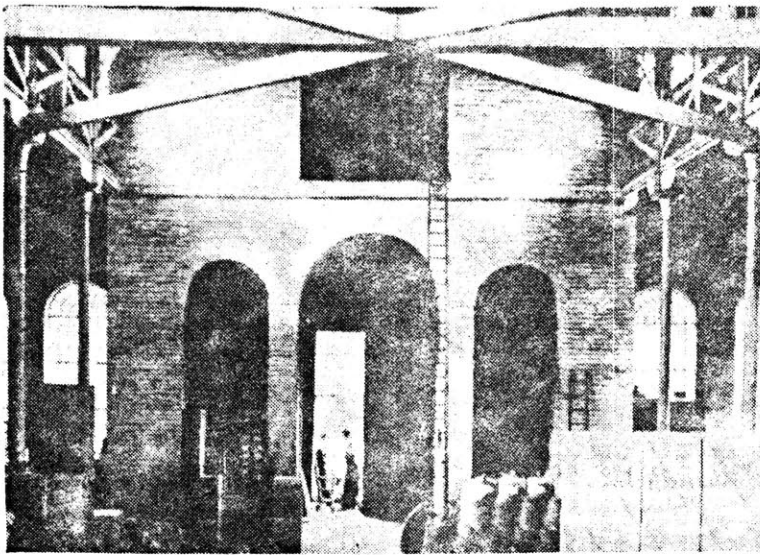
In 1792 a group of Newburyport merchants built a navigational system that bypassed the thirty foot Pawtucket Falls and opened up trade with New Hampshire. A 9000 foot canal was dug and joined the Concord River with the Merrimack River just above the falls. Four lock complexes were incorporated into the canal system. The Lower Locks complex is the last lock before the Concord River.

The transportation aspect of the canals was overshadowed by the potential of the drop in water level. Huge penstocks took in water from the canals and routed it through the turbines, then dumped it back into the canals to be used by the next mill. Several mills once surrounded the Lower Locks area.

Near the Lower Locks there was a lively tavern district and dock area. The American House Hotel was added later. The mills surrounding the area forced an open area near to the lock that was, in its day, an urban park.

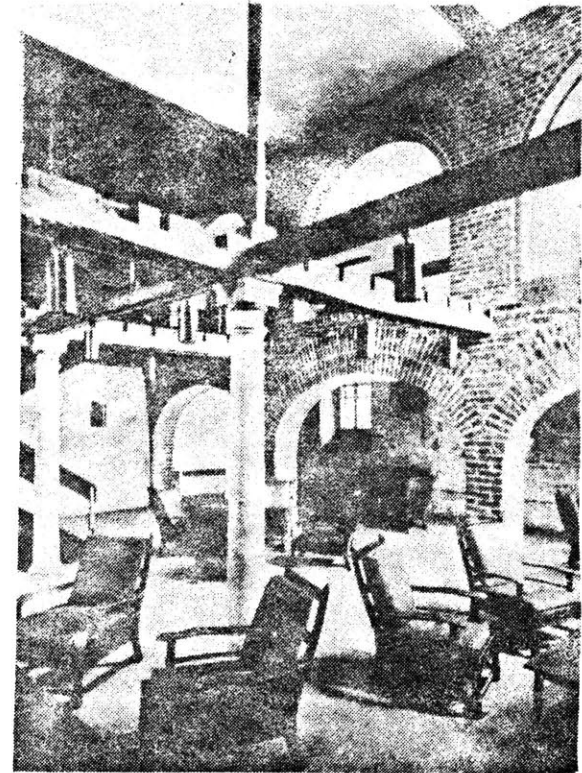
Lowell is an industrial city form in the 1800's. The mills, taking advantage of the location at the confluence of two rivers, a powerful set of falls with a good drop in water height over a short distance, and an untapped labor source, launched a "grand experiment" of the Industrial Revolution.

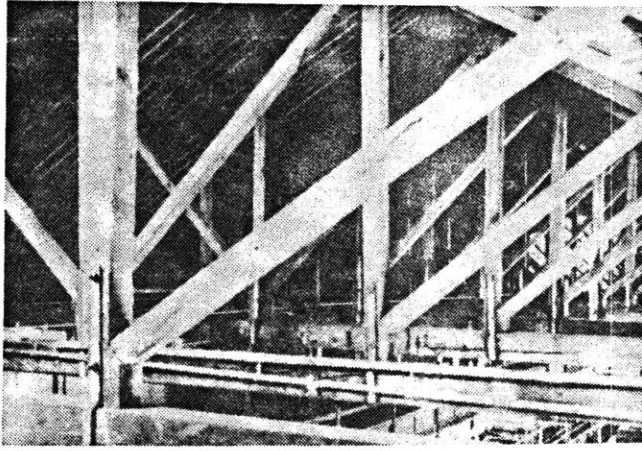
The mills were established to produce textiles using the water power provided by the canals running beneath them. The water turned the turbines and the turbines produced the power needed to run the looms and other machinery of production. The daughters of surrounding area farmers were the initial labor pool. In a protective, paternalistic environment that included closely supervised boarding houses and managed free time, the mill owners initially intended to avoid the problems of the polluted and overcrowded industrial towns of England. Lowell was a textile town with a vision. Housing was clean, pleasant, and carefully managed. The mill girls worked for three to five years, all of the time returning much needed cash to their rural families. While in Lowell, They lived in boarding houses--a building type developed for the specific needs of this unique population.



Lowell has many fine examples of innovation in the textile mill building. The mills were well lit with some unique and innovative systems. To allow light to reach deep into the mill building, clerestory and special glass that bounced light up and in, were used. Fireproofing was the most advanced of its day and was practically considered key in rational plan layout. The town was thoroughly planned. Lowell's growth was phenomenal: from a small farm community of 200 in 1820 to a major manufacturing center of 130,000 people in 1920. From 1924 to 1969 the textile industry declined. The future of Lowell dimmed considerably.

Lowell presents the architect with a rich historical past. One is easily blinded by a myriad of surrounding details. Lists are made of important sentimental items. It can be like looking through a grandfather's sentimental relics--things that evoke a past meaning. Architecture offers a different opportunity. It is a living present, something to be used today, in today's ways. It should not recreate in the





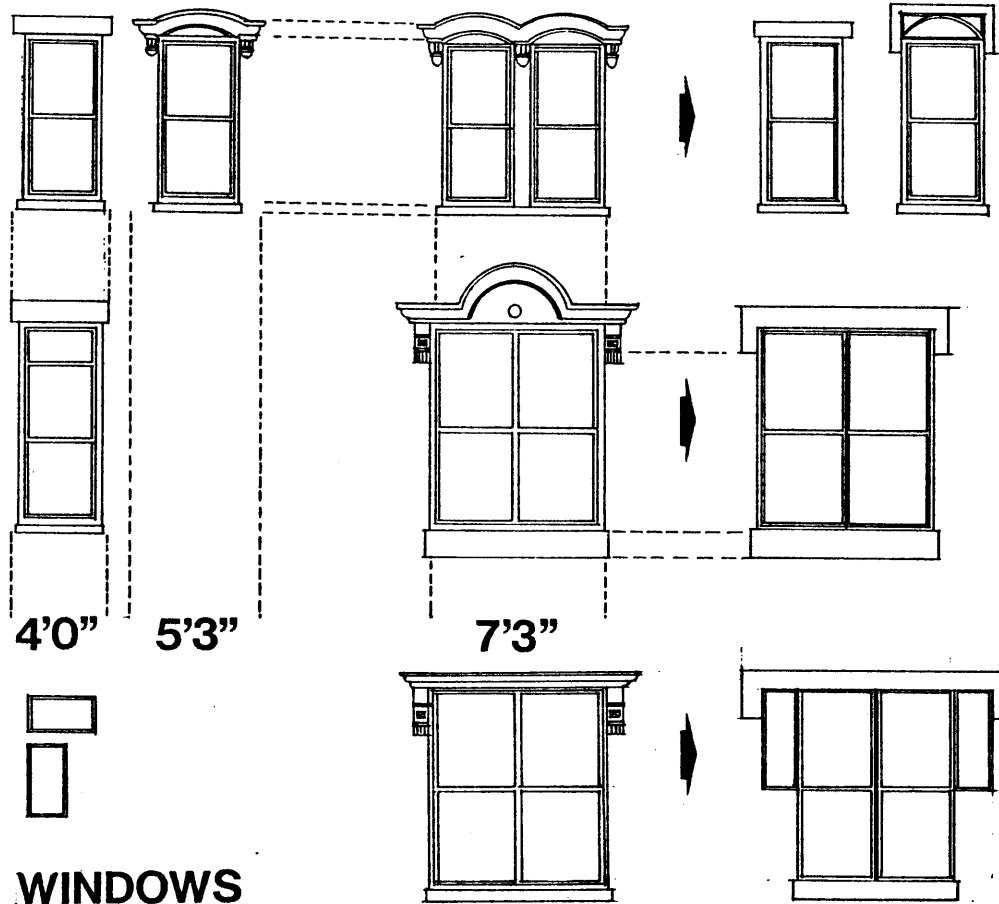
new a log cabin, a mill building, or a 19th century storefront; it should be a search for the established pattern that still works today.

Finding new uses for these buildings is important not only because of the intrinsic value of the buildings themselves, but because the very act of converting them may teach today's architect something about this established pattern. The conversion of a Georgian textile mill or a Victorian warehouse, moreover offers considerably more freedom than the conversion of a building of outstanding architectural or historic interest which demands scholarly restoration and inhibits the choice of a new use.³

³Richards, J.M. The Functional Tradition in Early Industrial Buildings, London, Architectural Press, 1958, p. 72

It is for precisely this reason that the American House Hotel was chosen for this work. The synthesis of past and present can be more freely worked with the extension of the qualities of old into the language of today. Functionalism is touched on as an issue here: form follows function. The old is studied to learn methods of dealing with experiential and functional issues. What set of spatial dimensions were important to the original builders? How did they approach facade issues? What qualities (repetition, shadow, monumentality, safety, etc.) were important





WINDOWS

A study of existing window proportions and some new interpretations.

to them and why? Was there a directness of approach to design problem solving from which something could be learned today? The ventilation, light and fire issues were worlds beyond our current knowledge. There is a benefit to looking back.

The nineteenth century was an era of juxtaposition. Previously, buildings, even if large in size, were built on a domestic scale.

Even the vastest structures that were not domestic in purpose, like cathedrals and . . . barns, had doorways and other features which, being designed in relation to the human figure, served as a reminder of their connection with human activities. One of the most important effects aesthetically of the industrial revolution was the introduction into the landscape of structures that had nothing to do with the human scale, but reflected rather the superhuman nature of the new industrial activities.⁴

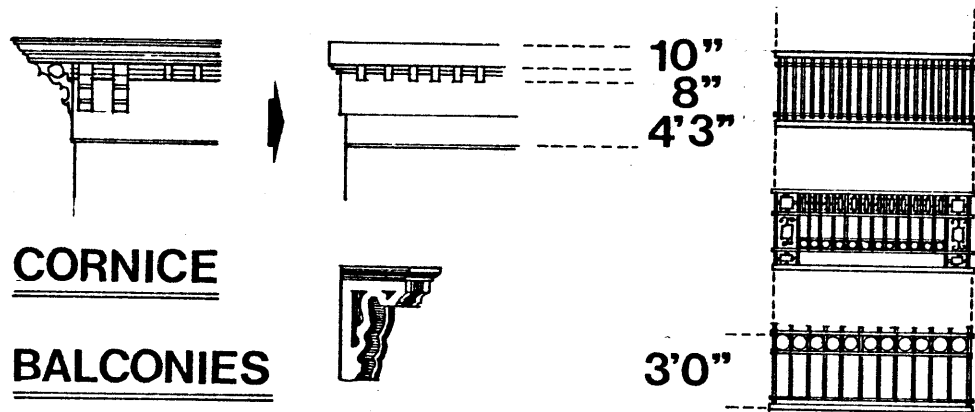
In the American House Hotel complex, this juxtapositioning is directly encountered. The older Frye Tavern, although a fairly large structure in square footage, is built on the domestic scale. The scale expands upward to that of the American House Hotel in less than 80 years. The scale has changed. Industrial objects are assimilated

⁴Richards, p. 20.

effortlessly, even aesthetically: metal rails, cast iron hoods over windows, giant looming cornices made of iron. Man is taming the industrial object, humanizing and beautifying it. This culminates in the "Man and the Machine" attitude that Wright so vehemently advocated. Cast iron railings are transformed by new casting processes into beautiful and functional objects. Buildings are designed in "forthright but highly adaptable spirit of the functional tradition."⁵

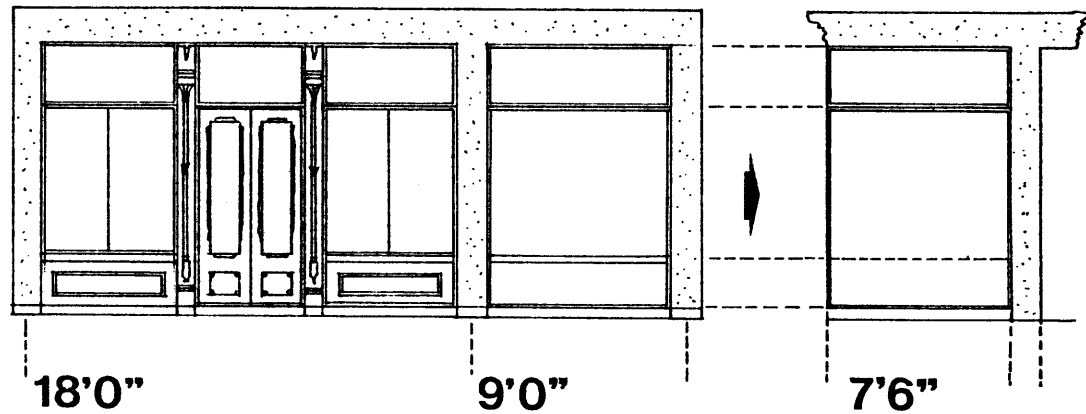
In the American House Hotel there is evidence of:

- A simplicity of form, e.g., use of a boxlike massing, linear wall planes, functional rooflines.



CORNICE

BALCONIES



STOREFRONTS

⁵Richards, pp. 14-15.

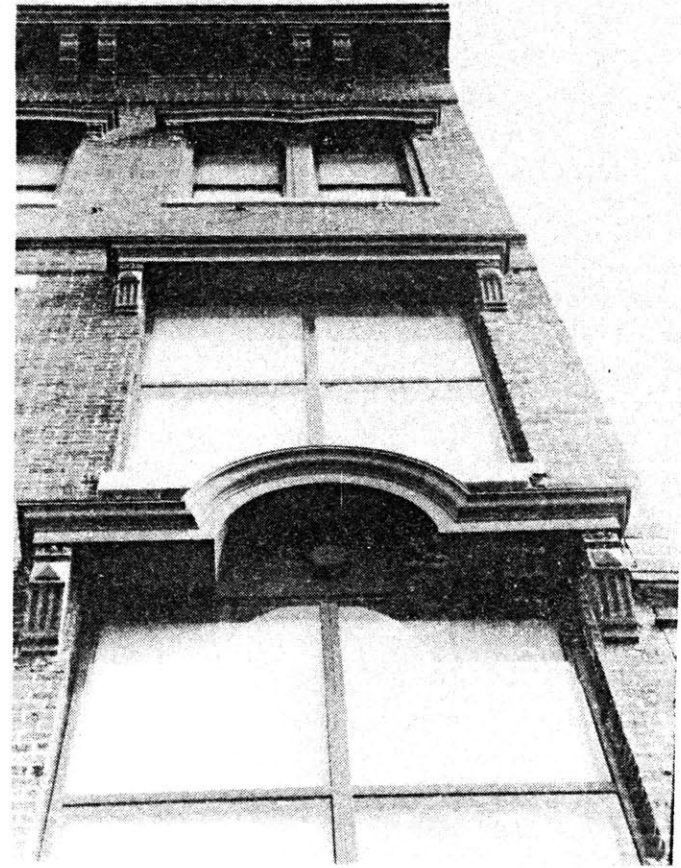
- A rhythm of facade detail, e.g., two window sizes, repetitive brackets below the cornice, rational dimensional systems observed throughout, similarities in floor plans of the third and fourth floors.

- A hierarchy of ornamentation, e.g., a post and lintel system with all glass inset is used on the store level; floor to ceiling windows are used on the second floor, with the most elaborate lintel detail over the right double window. Third floor windows are shorter and have less elaborate lintels; the fourth floor uses segmentally arched lintels topped with projecting Italianate hoods of cast iron. The building is completed at the top with a massive Italianate cornice, projecting two feet out over the facade plane.

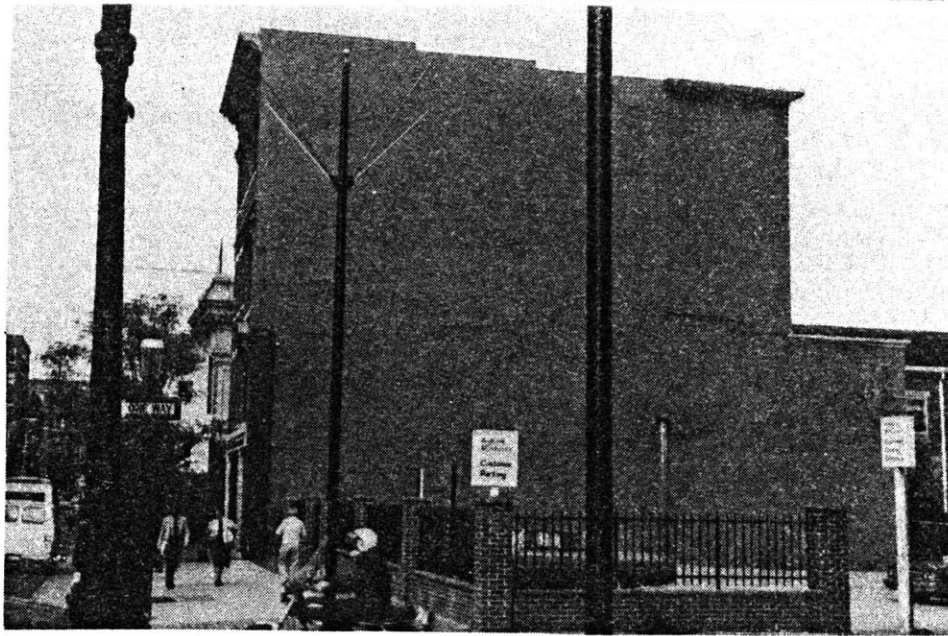
- A subtle modeling of solids and voids, e.g., discrete alternating of window spacing, and subtle shifts in horizontal alignment of the facade.

- Depth of shadow, e.g., utilization of large overhanging hoods over windows, utilization of an overhanging cornice.

Cast iron detailing, The American House.

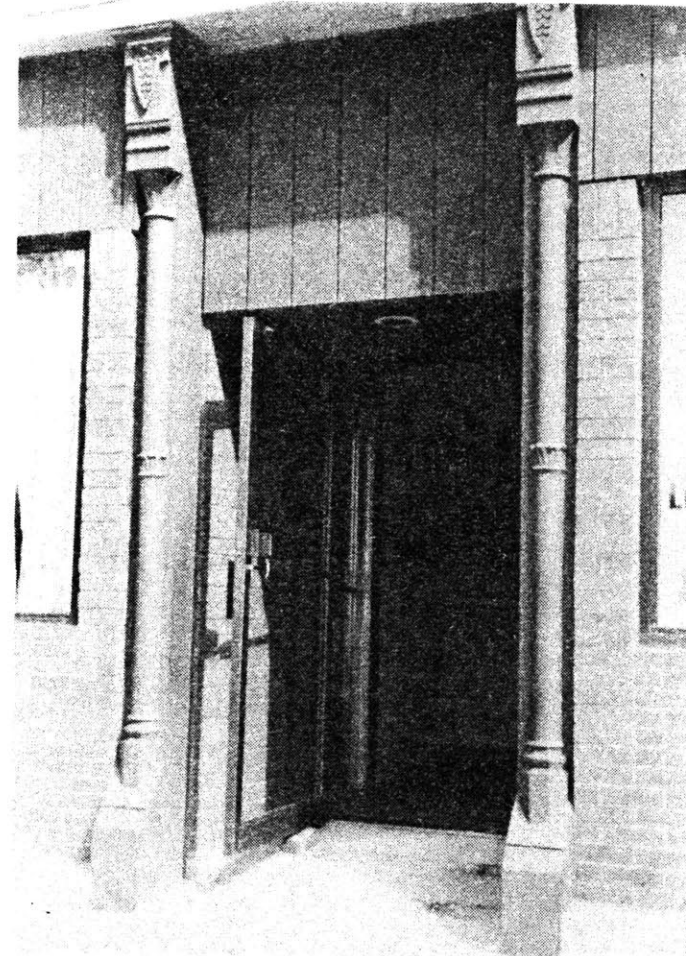


Functional, relevant ornament, e.g., use of a relatively small amount of disfunctional detail; ornament is function and, vice versa; granite lintels are doing a job; windows to the floor on the second level allow a view of the street below



while sitting; cast iron balconies form a screen through which the occupant can see, but offers privacy from the passerby; cast iron balconies are both screen and fire escapes.

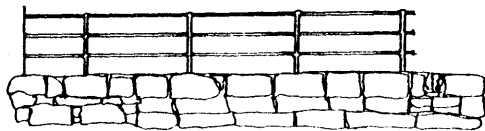
This building is closely associated with the means of production but is aesthetically appealing. These qualities and how they can be attained at once offer the architect of today valuable lessons. The process from which the lessons are learned is the subject of this thesis.



South elevation and present entrance featuring original cast iron columns, The American House.

The Lowell Cultural Resources Inventory lists the American House Hotel as a commercial building four stories high with 6,986 square feet of building space. The structural system is load bearing brick with a granite foundation. The facade is red brick in stretcher bond with stone post and lintel on the ground floor: granite sills and lintels; and cast iron columns, lintels and cornice at the upper level. The building fabric is intact, with evolutionary alterations that are major but reversible. The historic setting of the building is only moderately disrupted. Two thirds of the hotel has been demolished and replaced by a parking lot.

The original hotel covered the lot along Central Street to the corner of Warren Street. Intact subsurface remains of the foundation of the demolished hotel may remain beneath the parking lot. The Frye Tavern, first documented in maps dating 1820, is now partially subsurface on the south side due to the infill for regrading of the parking lot. The fragment of the American House Hotel as it now stands, is four stories high, three single

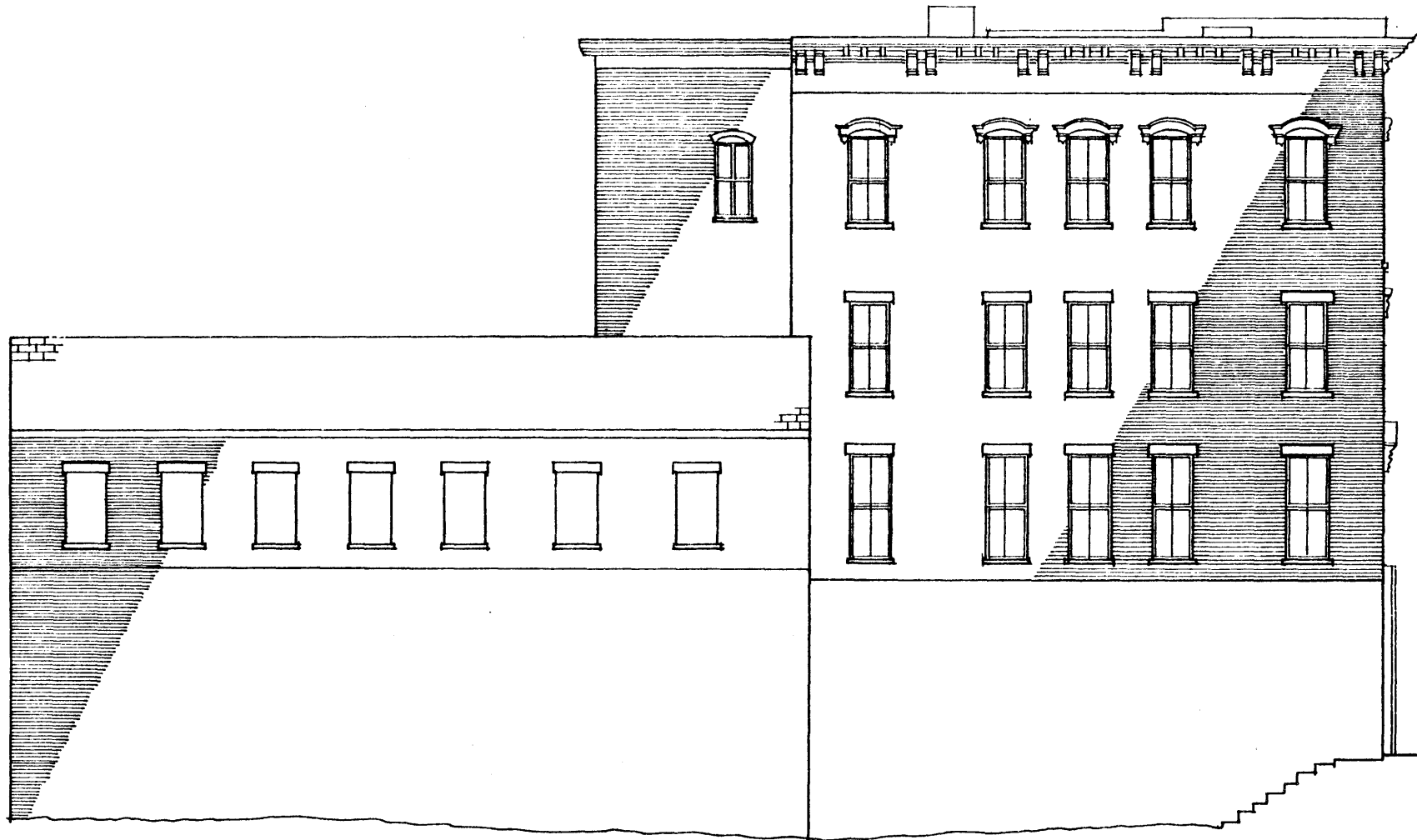


THE HISTORY

and one double window bays wide, with a flat roof. The two and a half story gabled roofed Frye Tavern is joined to the rear. Of the original fourteen bays of the old hotel, only four northern bays remain.

The Central Street facade has been remodeled, but the original granite posts and lintels were used. The entrance pilasters, the two story pilaster at the south corner, the fourth floor Italianate hoods over the windows, and the cornices with paired brackets and small single modillions are all of cast iron. The single windows on the second and third floors have finely dressed granite sills and lintels.

The fourth floor windows are segmented arches with very deep projecting Italianate hoods, and set on brackets. Each floor has a double window with a different style hood, beginning with a semicircular cast iron hood on the second floor, a flat cast iron hood on the third, to a double segmentally arched window on the fourth.

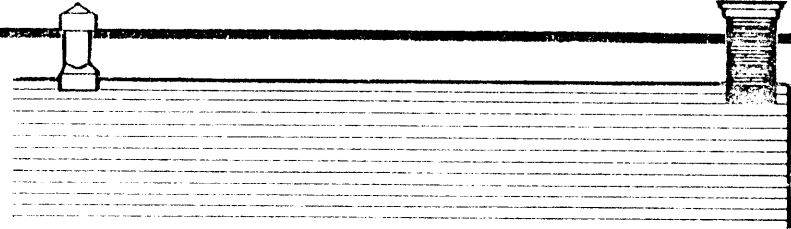


NORTH ELEVATION

The north facade is similar to the front one. The south facade is a blank brick wall, without a cornice. This is where the building was cut off to make room for the parking lot. One lonely cast iron support column can be found embedded in the flat brick wall. There are indications of major door openings where the building was joined, but these are bricked in now. The original elevator tower is seen on this side and accentuates the highest point in the complex with the complete Italianate cornice projecting two feet out.

The rear of the building is the original Frye Tavern. This is a six in twelve low pitched gable roofed structure of Greek Revival style. Granite sills are in evidence throughout the structure. The building has a two step brick corbel at the cornice but projects only an estimated six inches.

The original Frye Tavern, because of its close proximity to the Lower Pawtucket Canal, catered primarily to the boatmen, teamsters, and laborers. Chains and posts for mooring of boats are still in evidence just to the canal side of the tavern, in the granite blocks of the walkway.



The tavern was located on what was then the road to Billerica (now Central Street). In 1822 Kirk Boott hired Irish laborers from Charlestown, to help build the canals.⁶ The original tavern contained sleeping quarters above the bar. President Andrew Jackson is reputed to have made a stopover at the tavern.

In 1832, George Tyler purchased the tavern and made it into the American House. Stagecoach service departed from here.⁷ In 1841, the central portion of the American House "block" was built, then was extended north and south around 1850. The original core structure was three stories high, with paired end chimneys and a gable roof.

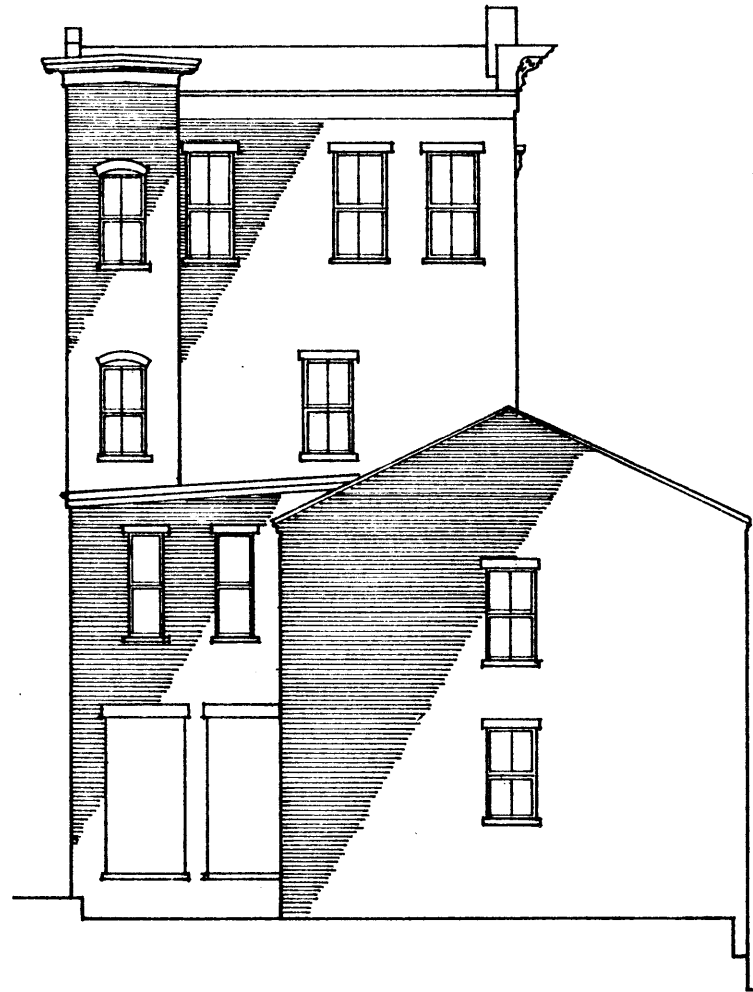
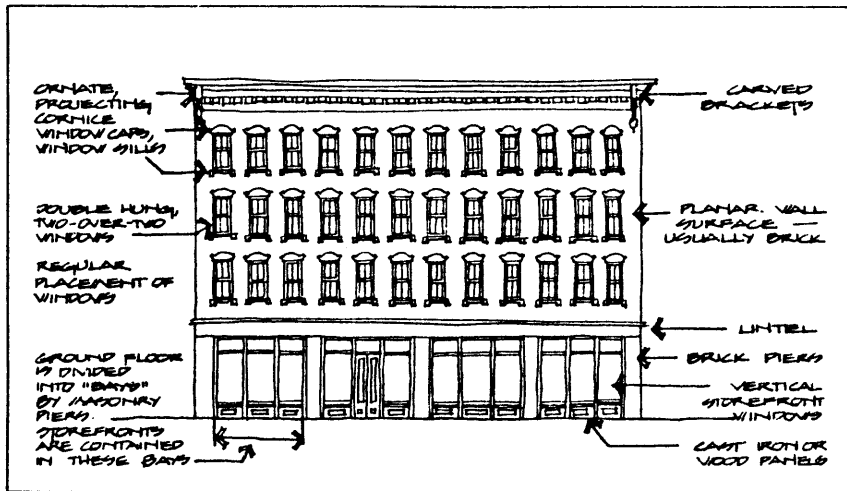
⁶Research Report, 136 Central Street, American House, Lowell Cultural Resources Inventory, On file at the Lowell National Historical Park.

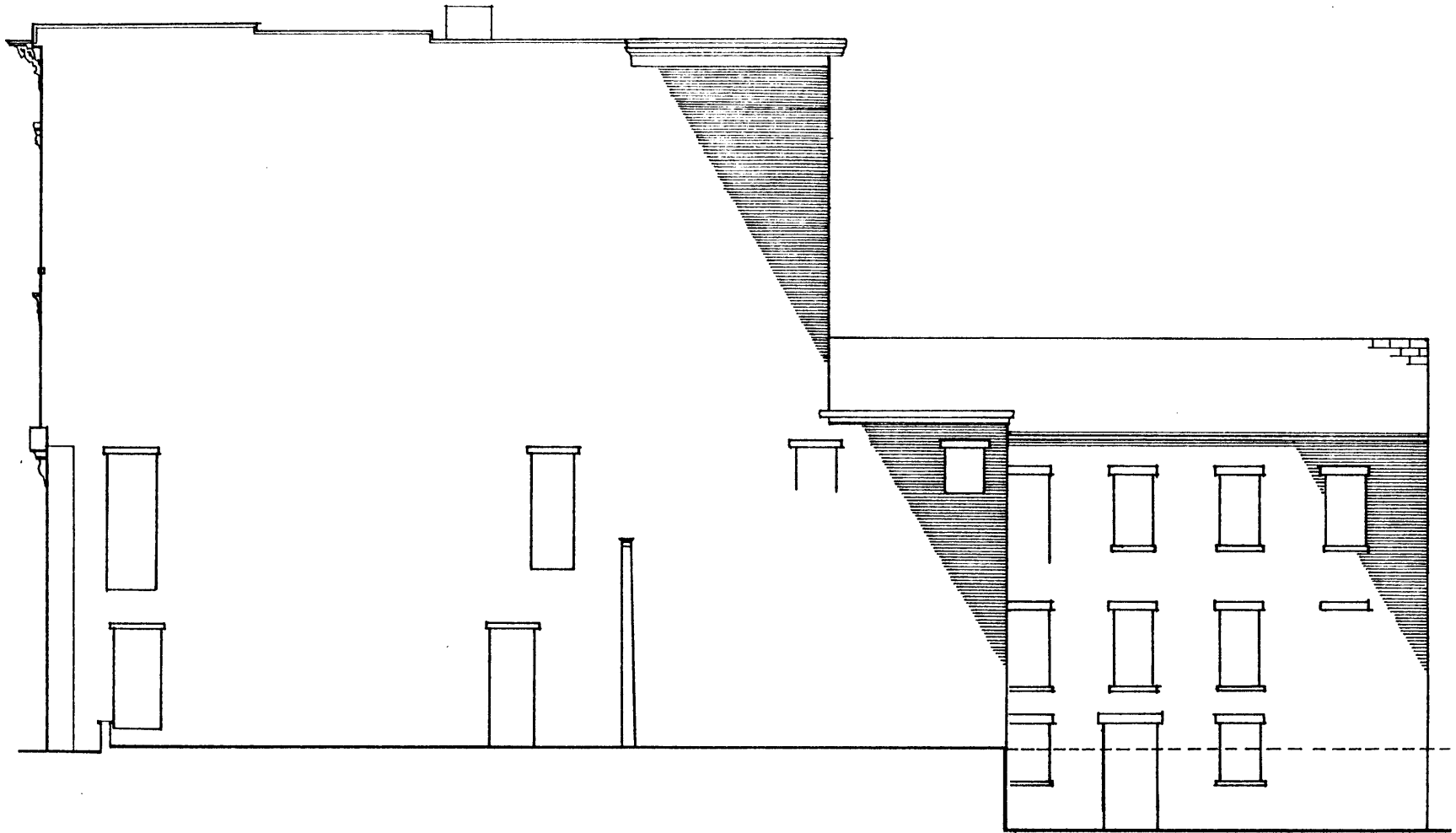
⁷Ibid., Research Report, 136 Central Street, American House.

Around 1876 the fourth floor and cast iron trim were added and the entry bay was reworked. In this form, the structure stood until the 1950's. It served as a fiftyroom hotel with "steam-heat, electric lights, speaking-tubes, fire-escapes, and other conveniences." Retail establishments occupied the ground floor. In the twentieth century, the first two floors of the Central Street facade south of the entry bay (now demolished) were redone with a cast iron front. The top two floors of the southern two-thirds of the building were removed in the 1950's; the rest of the south portion was demolished in 1975. The Lowell Academy of Beauty, has been there since 1959.

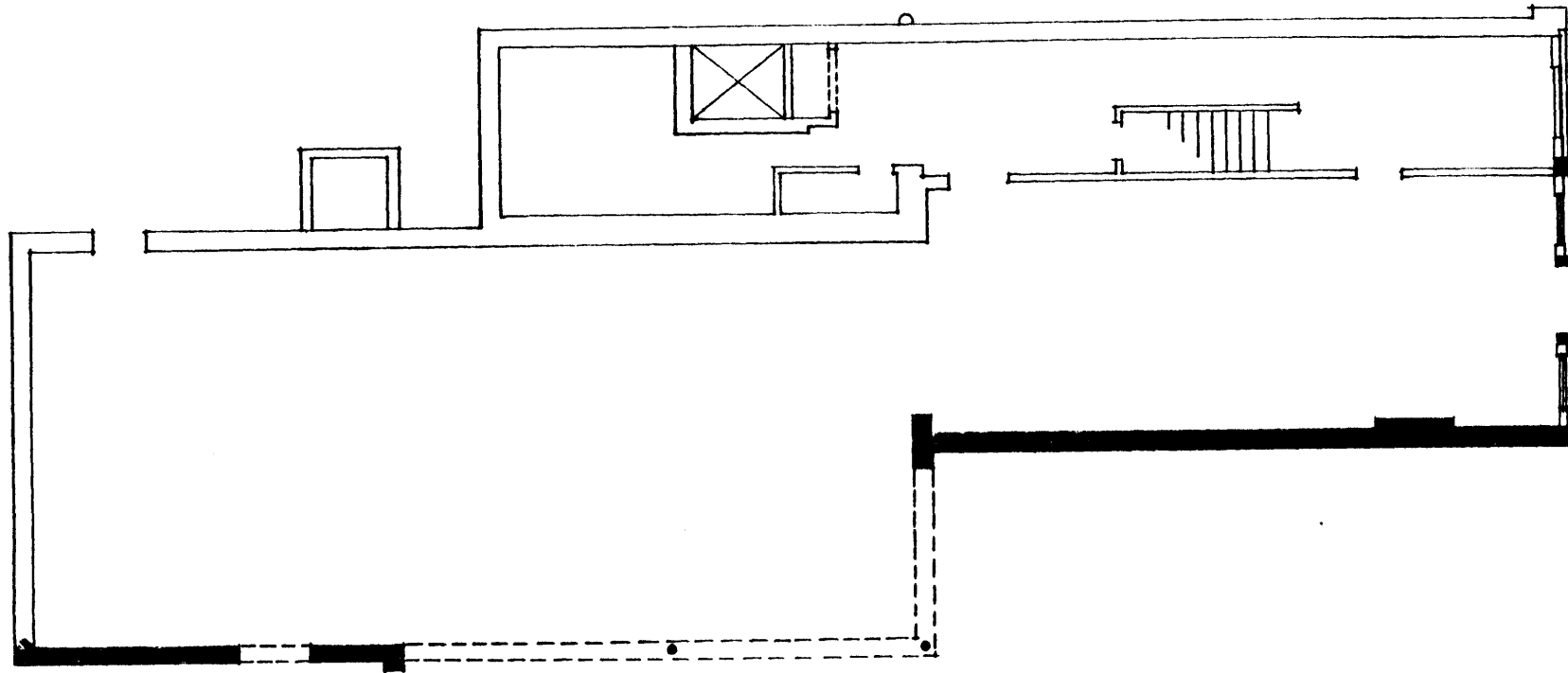
c. 1845-1870

Italianate

EAST ELEVATION



SOUTH ELEVATION

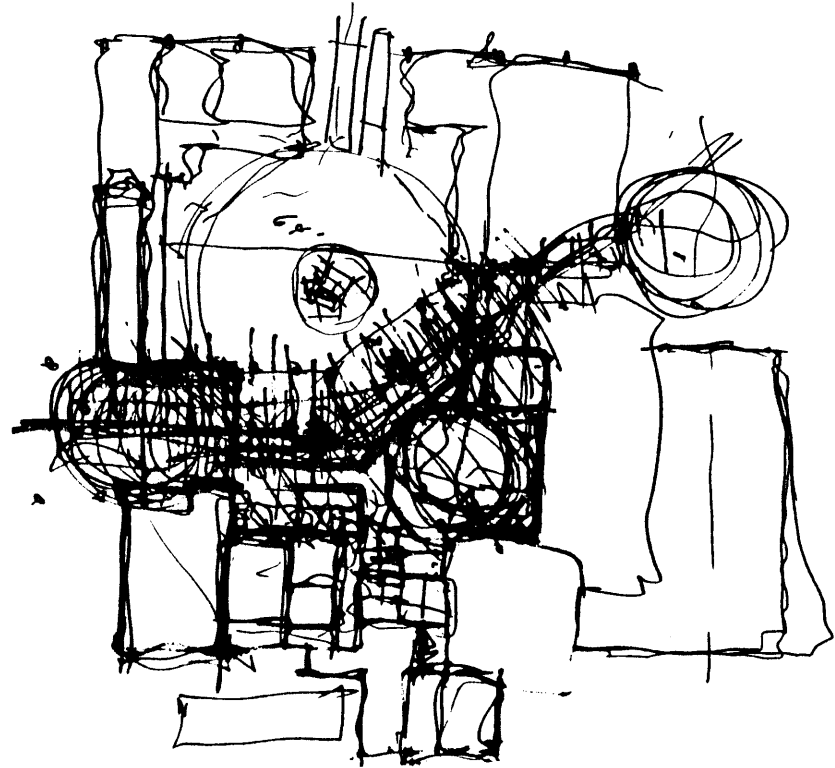


Beginning site plan.

THE NEW AMERICAN HOUSE

The New American House Hotel is a comfortable and intimate hotel for the person who is seeking the ambiance of the past, but the conveniences of the present. Its advantages as a hotel are: it adjoins an historic district, with views of the canal and guard lock complex; it offers a chance to see how the old buildings were constructed and to experience the qualities of the past in the new structure; it is downtown with easy access to shopping; and it has its own eating and drinking places within. There are thirty double rooms within this complex, with four two-bedroom suites for long stays.

There is a tavern on the ground floor, adjacent to the canal. Dining is on the other one and a half floors of the old Frye Tavern. Shops and conference rooms occupy the perimeter of the building facing the street. The lobby space is situated at the axis point between yard and canal, offering views of the canal, the guardhouse, and the lock. The lobby is lit both directly and indirectly by a king post truss lantern.



Sketch of original scheme featuring yard for traffic, circulation patterns and general massing.

The Program

Space Allotments and Floor Assignments for the New American House Hotel (50 Rooms)*

General Data and Approximations:

Height of building above ground:

Frye Tavern 3 floors
 Old American House 4 floors
 New hotel section 4 floors typical

Ground floor area: 12,370 square feet
 Frye Tavern 2,860 square feet
 American House 1,740 square feet
 New hotel section 7,770 square feet (including ground floor)

Guest rooms per typical floor. . . 14 in new
 2 in old

Stairways on typical floor 2 stairways plus individual balconies

Elevators 2 elevators

*Adapted from Calender, John Hancock (ed.), Time Savers, Standards for Architectural Design Data, New York, McGraw Hill, 1982.

Public space:

	<u>Productive Area</u> (sq. ft.)	<u>Non Productive Area</u> (sq. ft.)
Lobby and front office		1000 (G)
Lounge		500 (G)
Corridors adjoining		200 (G)
Coat checkroom		60 (G)
Bellman's checkroom		30 (G)

Concession spaces:

Barber shop	180 (B)	
Valet shop	100 (B)	

Subrental space:

3 rented stores (each 800 sq. ft.)	2400 (G)	
3 storage rooms (each 100 sq. ft.)	300 (B)	

Food and beverage service space:

Main dining room (45 seats, "tavern")	750 (G)	
	1500(T)	
Main kitchen		550 (B)
Bake shop		100 (B)
Bar and cocktail lounge	500 (B)	
Conference room (30 seating)	200 (G)	
Employees' dining room		110 (B)
Employee's lounge		200 (G)
Beverage storerooms		90 (B)
China, glass, and silver storage		150 (B)
Receiving room		90 (G)
Garbage room		40 (G)

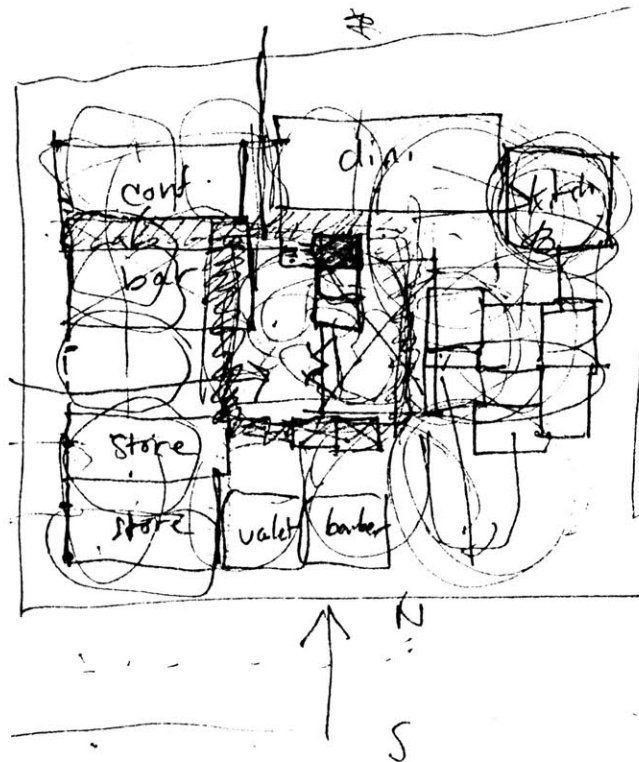
 Guest room space:

30 rooms (each 250 sq. ft. including closet, bath, vestibule	12,500 (T)
4 two-bedroom suites, 1 three bedroom suite	
Auxiliary space (add 40% of above for corridors, stairs, elevators, maids' closets, wall, and partitions)	5000(T)

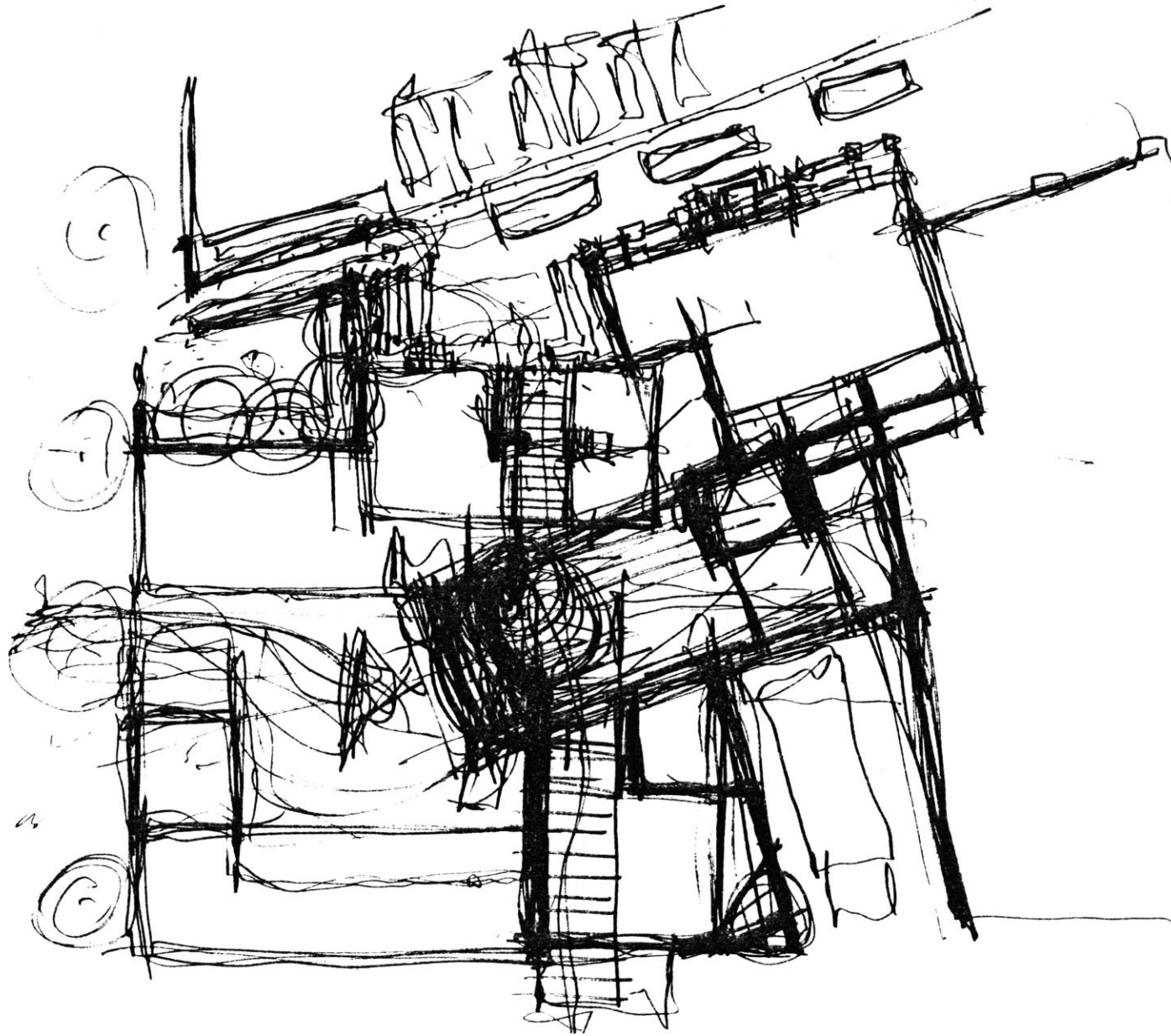
General service space:

Manager's office	70 (G)
Secretary's office	50 (G)
Accounting office	75 (G)
Linen room	175 (B)
Men's toilet and locker room	180 (B)
Women's toilet and locker room	200 (B)
Maintenance shops	125 (B)
Furniture storage	125 (B)
General storeroom	300 (B)
Boiler room	75 (B)
Water heater tank space	100 (B)
Fuel storage	100 (B)
Transformer vault	200 (B)
Refrigeration compressor room	200 (B)
Fan rooms, ventilation equipment	200 (B)

Total productive area	<u>18,340</u>	
Listed non-productive area		10,395
Add for basement corridors, walls, stairways, and elevators		2,500
Add for ground floor stairways and elevators		500
Total non-productive area		13,295
Grand total of areas	18,340	13,295
Four typical guest floors each 3250	28,280	
Ground floor, figured at 12,370	12,370	
Basement, figured at	3,460	



The first sketch.



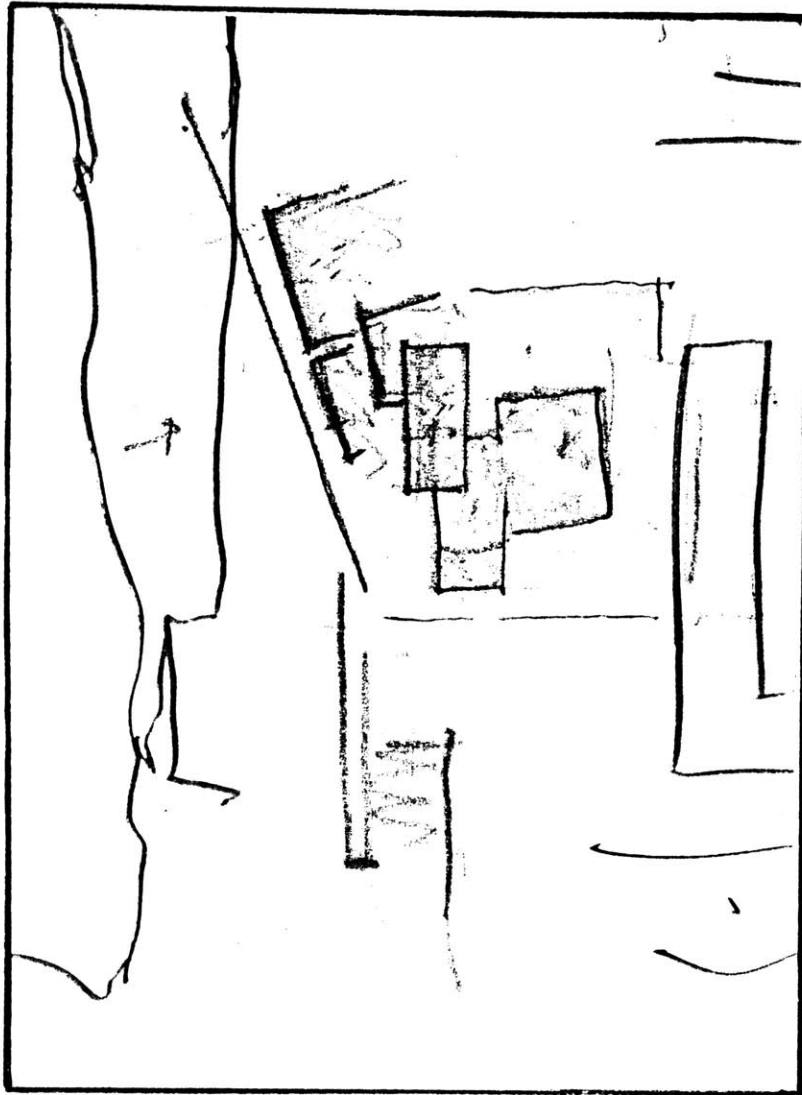
THE DESIGN OPTIONS

A sequence of design possibilities was generated early in the project to identify the issues involved in the reuse of this building and the potential design solutions. Issues considered were:

- Circulation
- Views
- Microclimate
- Sound
- Light
- Massing

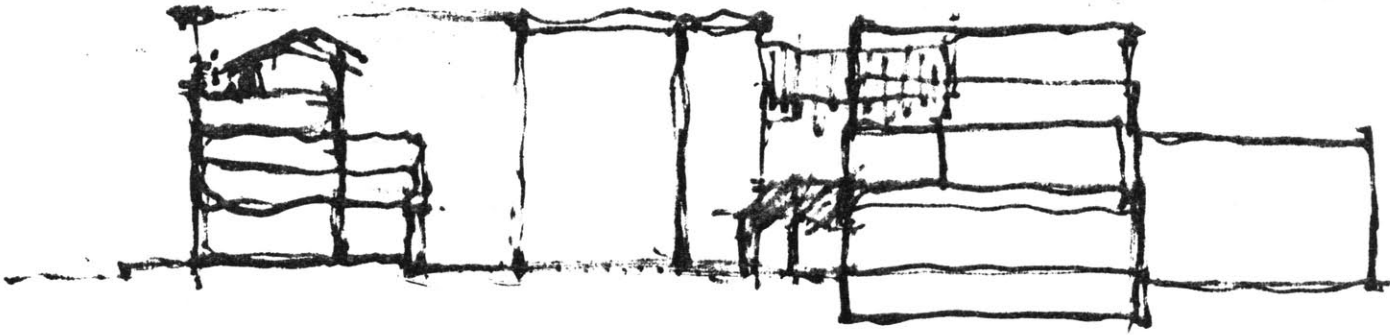
In the original building, major emphasis in construction in the 1840's was on safety in case of fire, ventilation, light and modern convenience. The advertisements for the hotel list the advantage of central heating, electric lights and the provision of fire escapes. These were the major innovations that the hotel offered in its day.

To bring the old buildings up the present day standards, central air conditioning, heating and ventilation was added by using an enclosed boxed



Study sketches.

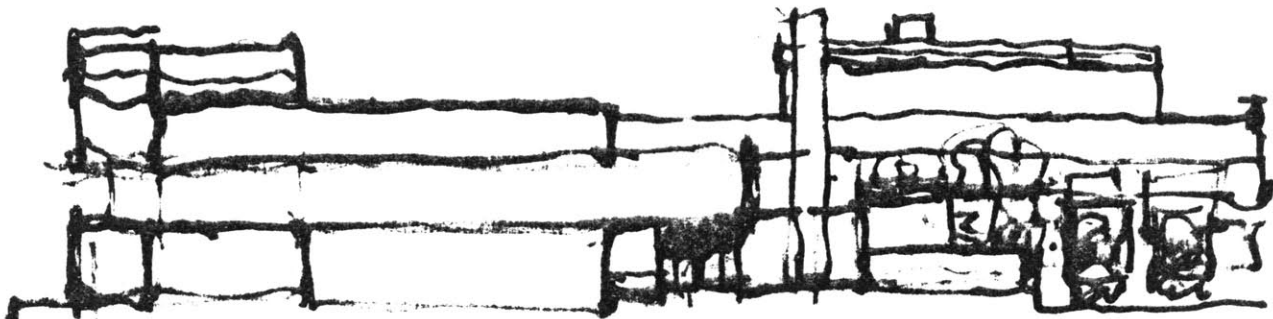
The pedestrian movement develops, the changing geometries emerge.



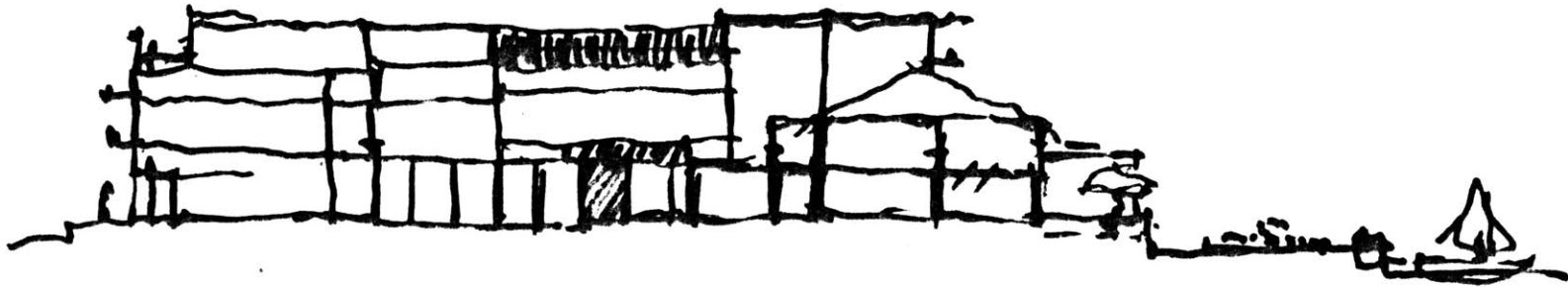
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

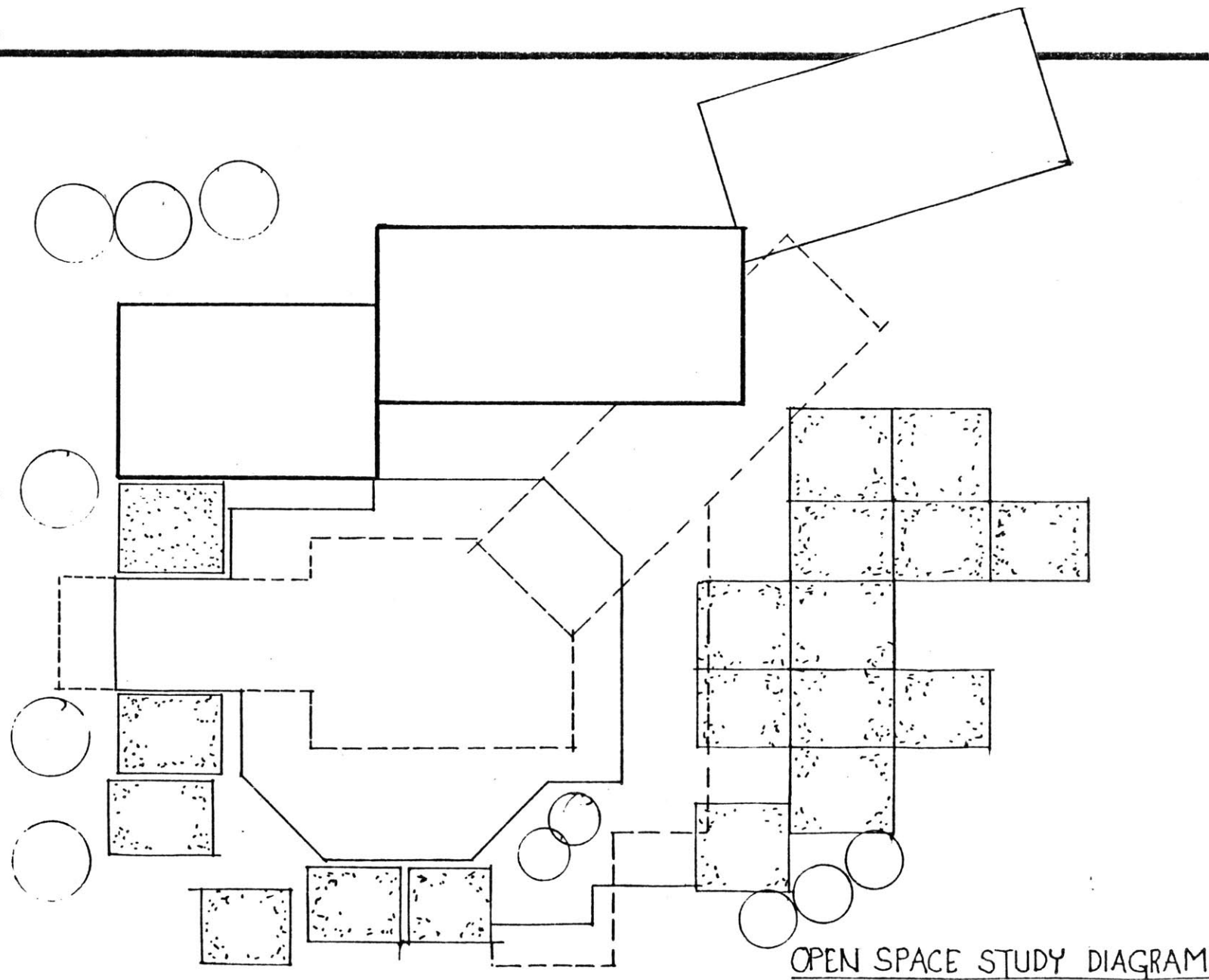
duct system like a coving around the ceiling, letting the full original ceiling height remain where possible. Private bathrooms would be added on each floor. Since the old use of the building for a hotel is being restored, the plan needs very little remodeling. Circulation to the old part of the complex from the new was an important generator of the design of the suites in the original hotel.

The Frye Tavern was left as it is with the exception of cutting out of floor planes on the second level, to form a third story L-shaped mezzanine and removal of accumulated wall surfaces to expose the heavy timber beams and columns. Light could reach deep into the building this way. Plaster would be removed on exterior wall surfaces to expose the brick bearing wall.

All brick surfaces would be steam cleaned, and window units replaced with a type resembling the original where windows are removed presently. Light is a consideration in the use of the mezzanine in the Frye Tavern. Existing chimneys would be repointed and restored and are developed as a unique and charming feature of the new hotel.

Several clay models at fortieth scale were also generated, particularly to test microclimatic considerations and to manipulate massing.

In sketch form, at sixteenth scale, three design options were developed and tested. These were quick, intuitive formats.

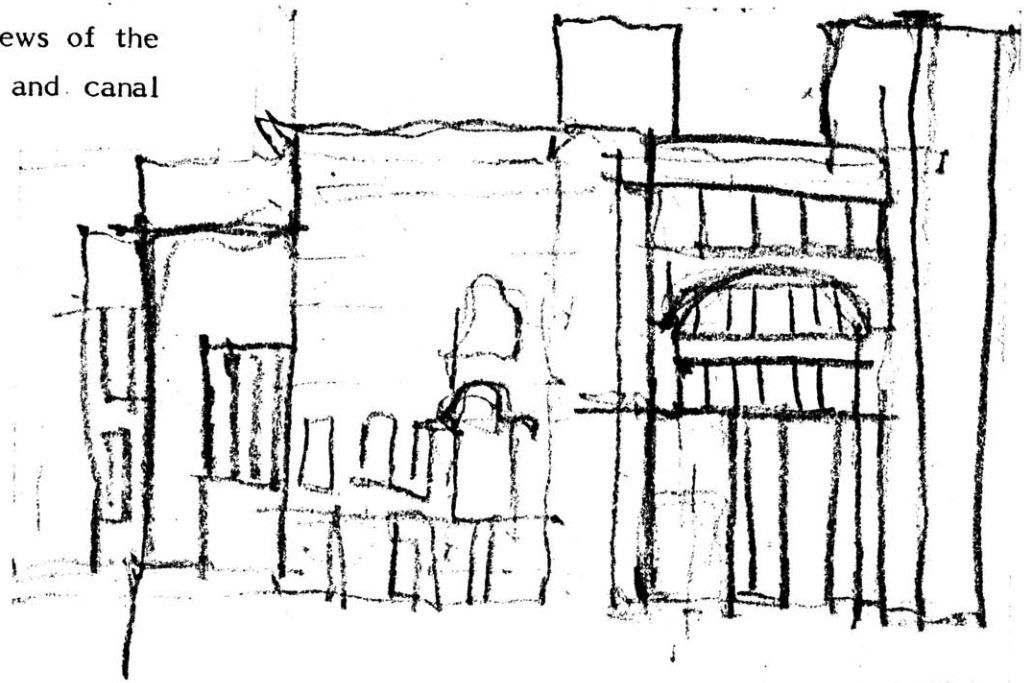


OPEN SPACE STUDY DIAGRAM

A plan with a central vehicular courtyard that serves both as a drop off point for hotel patrons, as a light and ventilation well, and as an interesting and allusive "yard" on which rooms could face. On the upper levels, this plan allows rooms to face the courtyard or face the exterior views around the building. This plan allows a double loaded corridor, thus utilizing space efficiently because of increased perimeter area--a plus for a hotel. The erosion of the ground floor by the courtyard, which needed to be very ample for cars to turn , was an asset--leaving dimensions that were people-sized and use related around the perimeter. There are many views of the "yard", and out to the exterior streets and canal walkway.

Option One

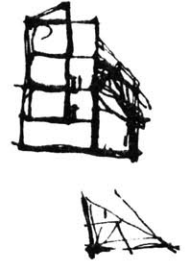
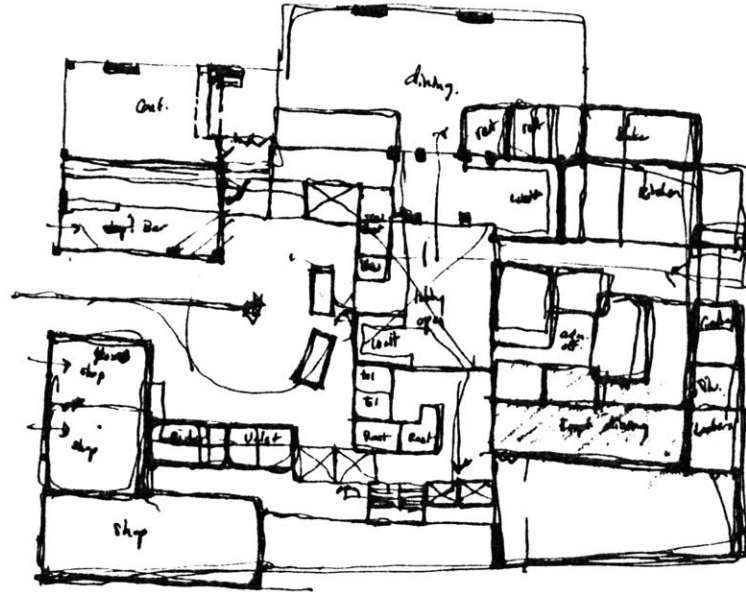
A cross direction was developed from the "yard", parallel to and leading to the canal walkway. The point where the direction relocates becomes the lobby. The lobby accentuates the importance of the canal and accesses to it directly. This lobby becomes the "great space" (shed) of the scheme.



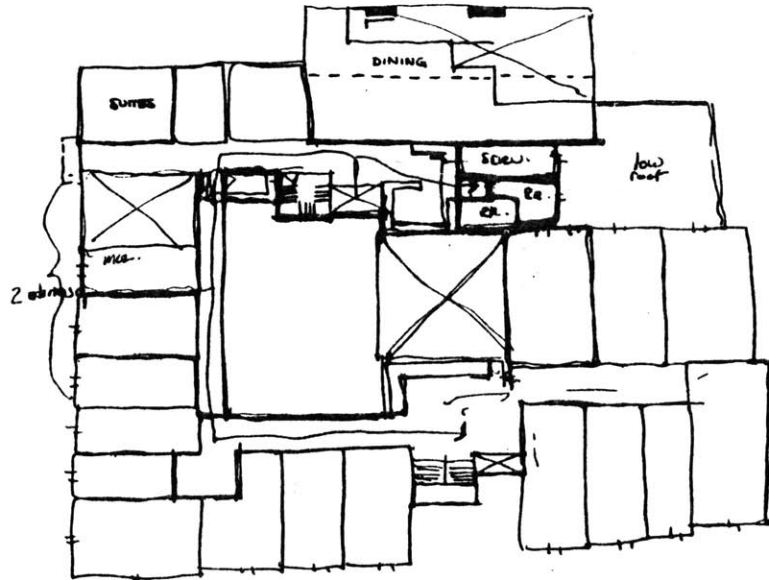
The Extroverted Yard

Option One: Featuring a central vehicular "yard".

1

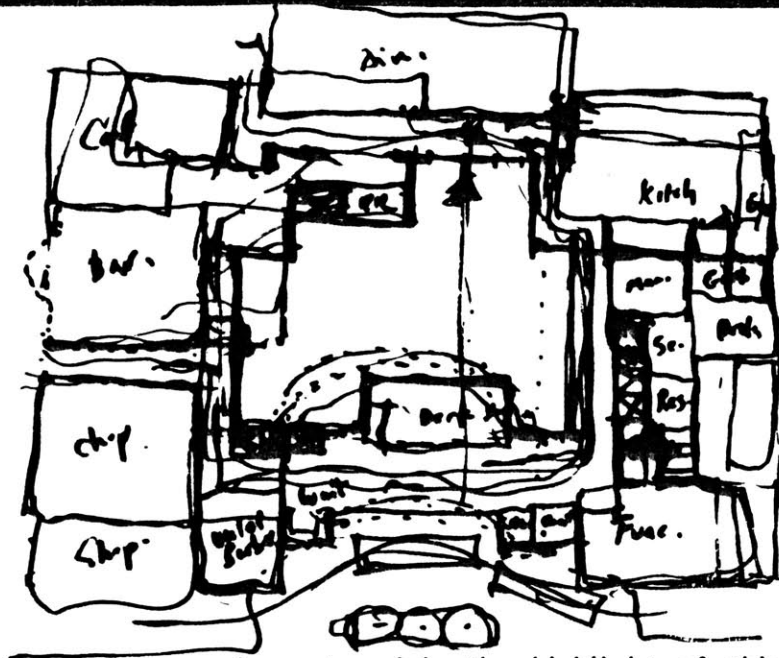


GROUND LEVEL
OPTION ONE



4 stories

SECOND LEVEL
OPTION 1



The grand courtyard is the highlight of this scheme. This courtyard, however, differs in character from the one in Option One. This courtyard is sculptural, planted, aesthetic. It is to look at, not to use functionally. The grand courtyard has formal qualities in that it would need to have specific uses contrived for it. An interior shopping edge would have run along the edge of the courtyard, parallel to Central Street. The rooms at the upper level center on the courtyard. This space could have even become interior, with a great roof to cover it (an atrium). Drop off of the hotel patron would occur on the Warren Street side of the hotel.

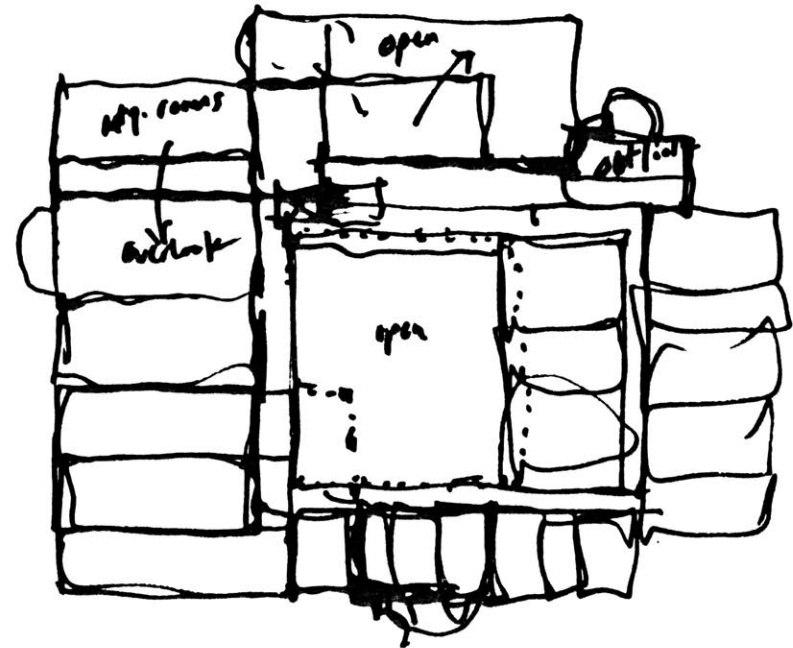
Option Two

OPTION 2
GROUND LEVEL

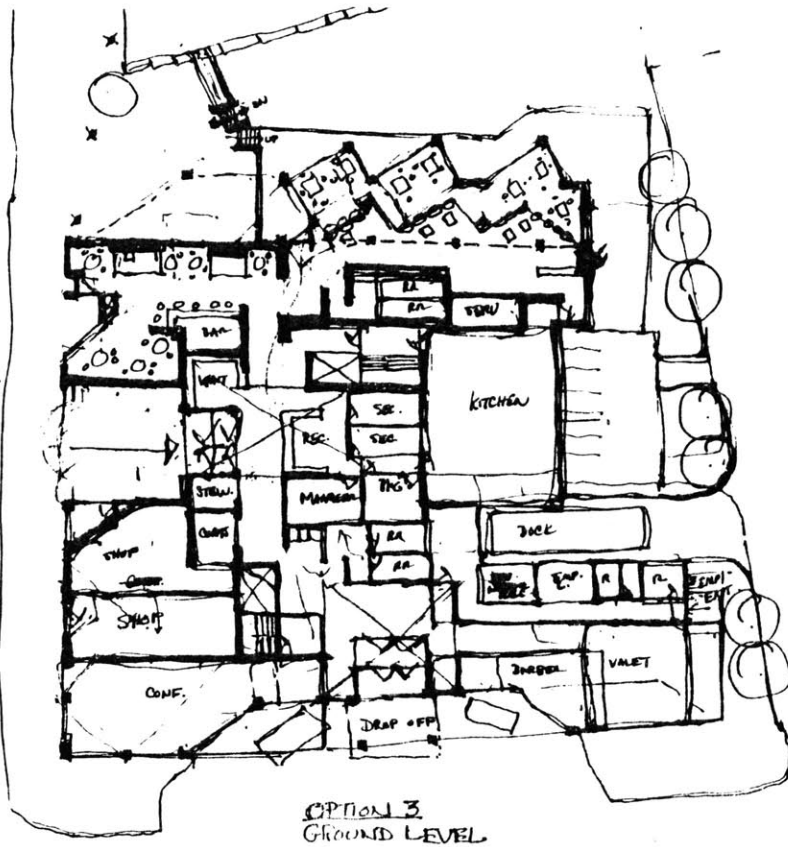
The Introverted Courtyard

2

Option Two: Featuring a "grand courtyard", drop off on Warren Street, and interior shopping edge.



Option Three

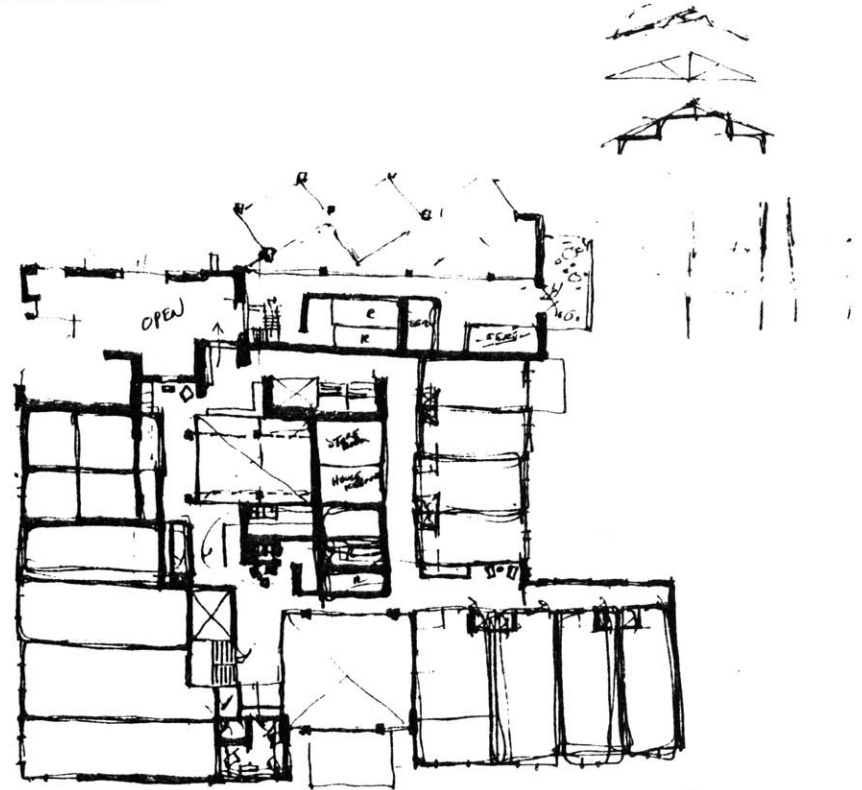


A Presence on the Street

3

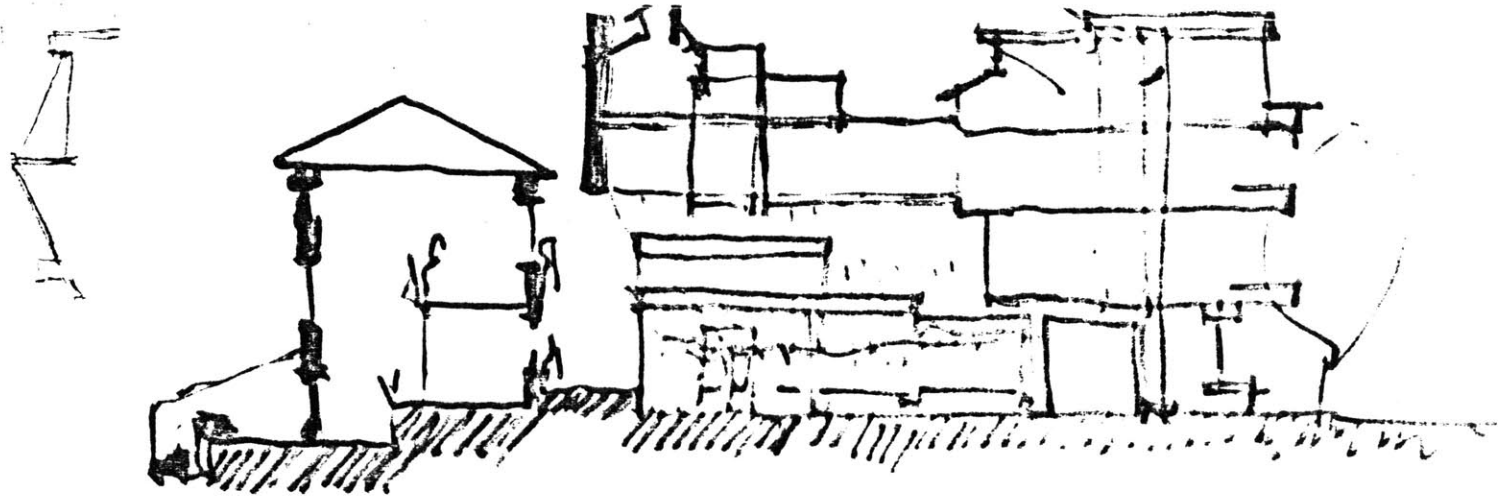
Option Three: Features drop off on Warren Street, but with main ceremonial entry on Central Street.

No courtyard is used in this scheme. Drop off for patrons arriving by car is on the Warren Street side, but the main ceremonial entrance to the building is located on Central Street. On the upper floors, a central elevator and service core is employed, with rooms radiating outward from this. The canal connection is the parallel path entering the side of the American House Hotel building, skirting the interior shopping edge, then re-emerging on Warren Street.

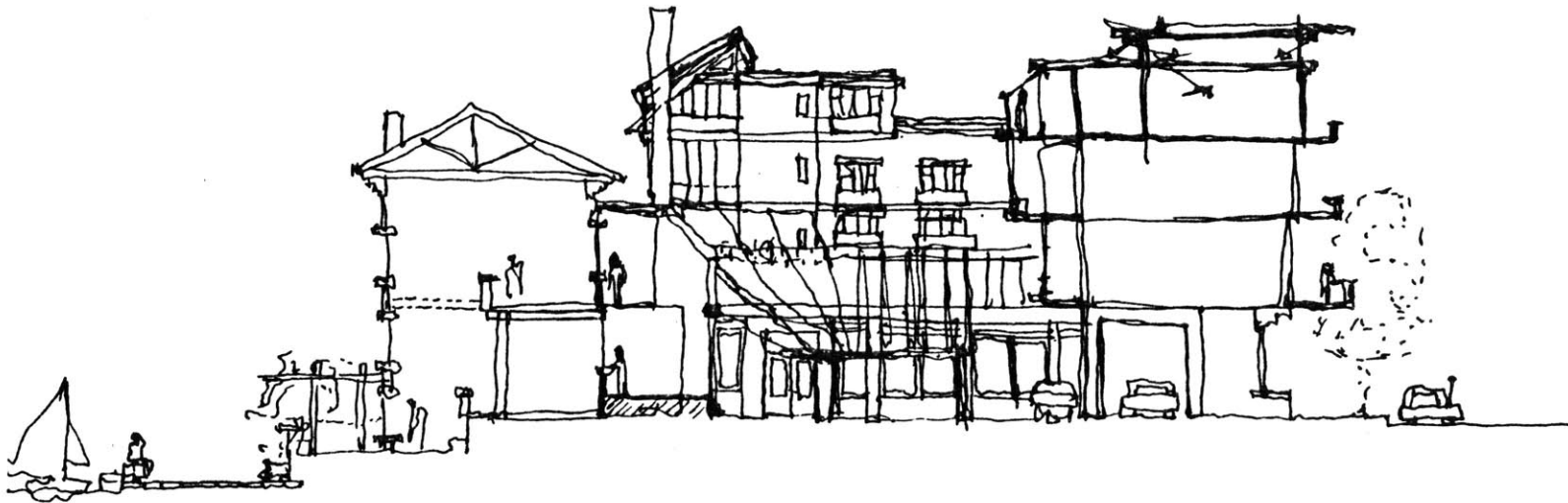


The Final Scheme





11/12
SECTION B-B



SECTION B-B
11/10

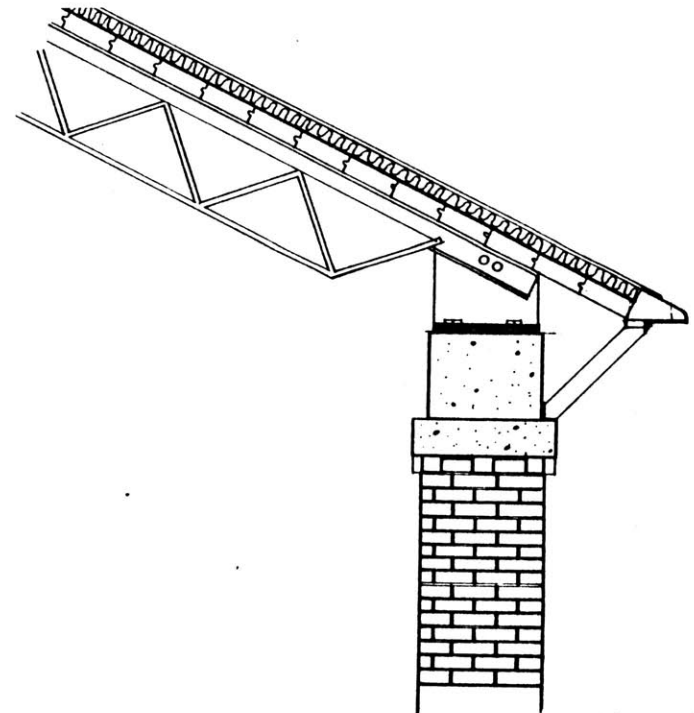
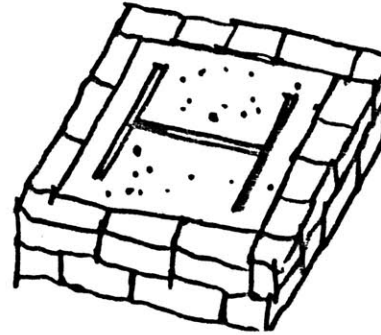
ELEMENTS OF THE DESIGN

Sheds

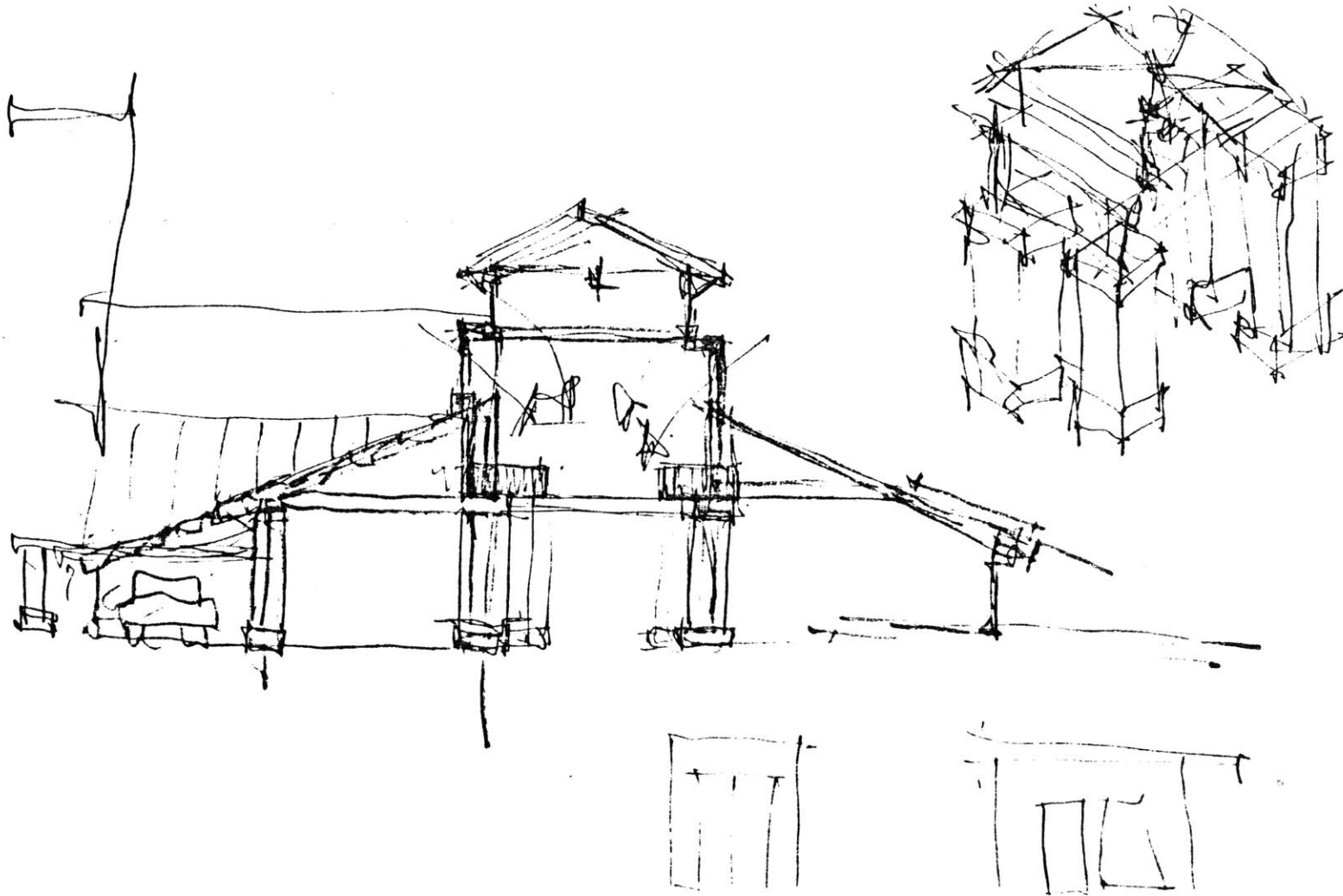
In designing this hotel the allusive value of traditional forms was taken into account. Sheds are one form common to the period of this structure. The lobby has been consciously created to evoke the memory of a shed structure.

This form allows a dissimilar part to connect the old and new; it forms a great open space that is different from the surrounding structures, and thus special; and forms a functional lightweight connection between canal and yard. The use of a shed structure here highlights the lobby's function as a connector: both of building parts and natural pathways.

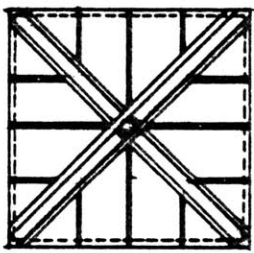
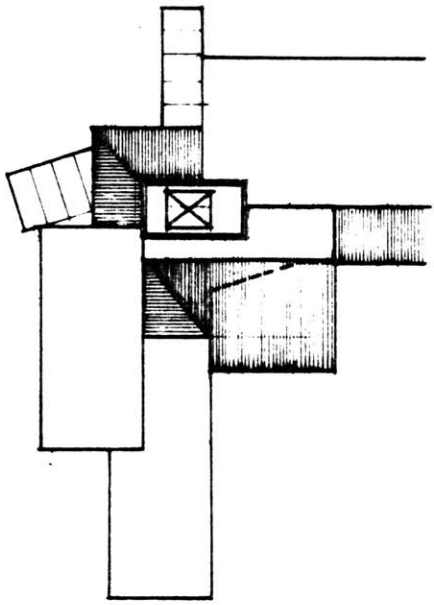
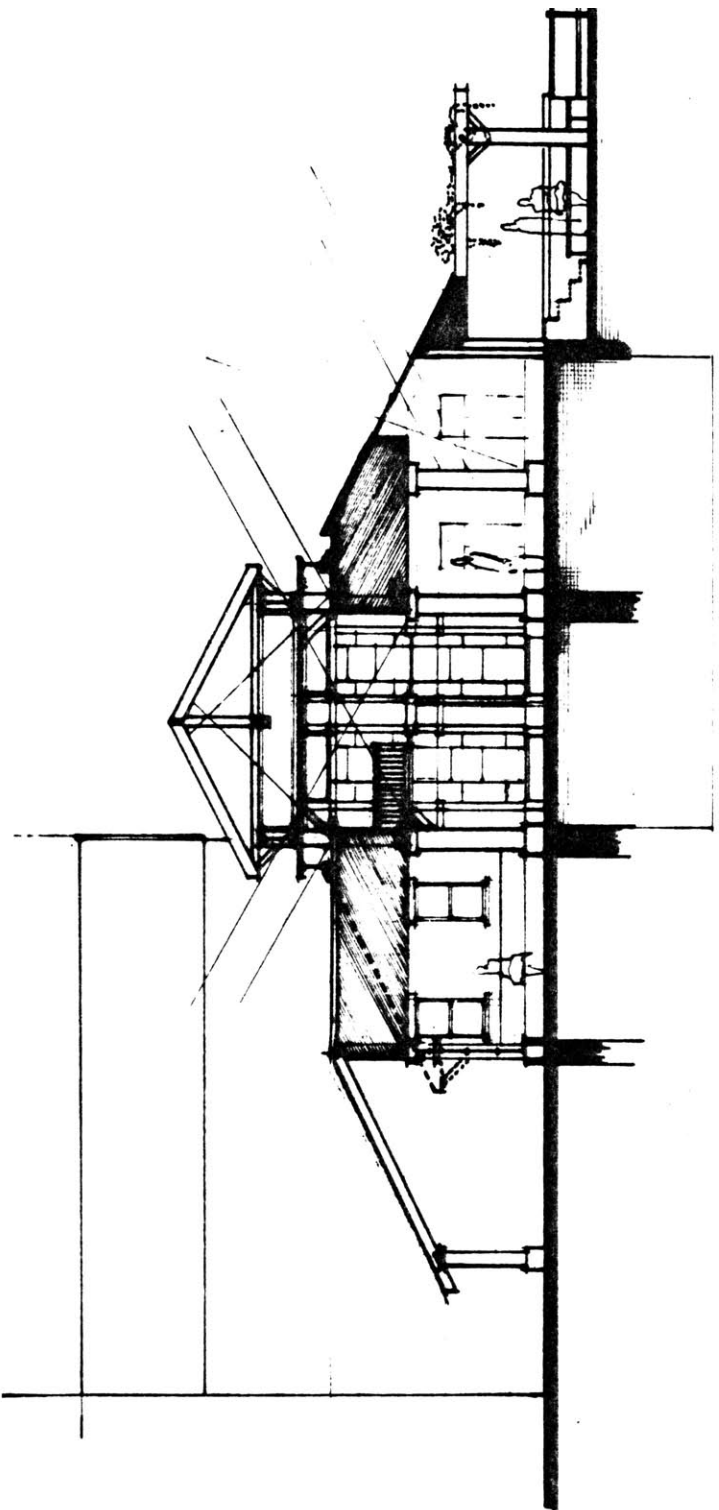
The lobby is built of open web steel joists with concrete planking where not exposed, but with wood tongue and groove planking where exposed. The "lantern" is a form reminiscent of the clerestory section of a mill building. The lantern here is an abbreviated form of precedent, yet one that connotes the qualities of light and texture used in the nineteenth century structures. Cast iron rails frame the mezzanine passageway around this space. The columns are steel, but with brick veneer contextual to the old material.

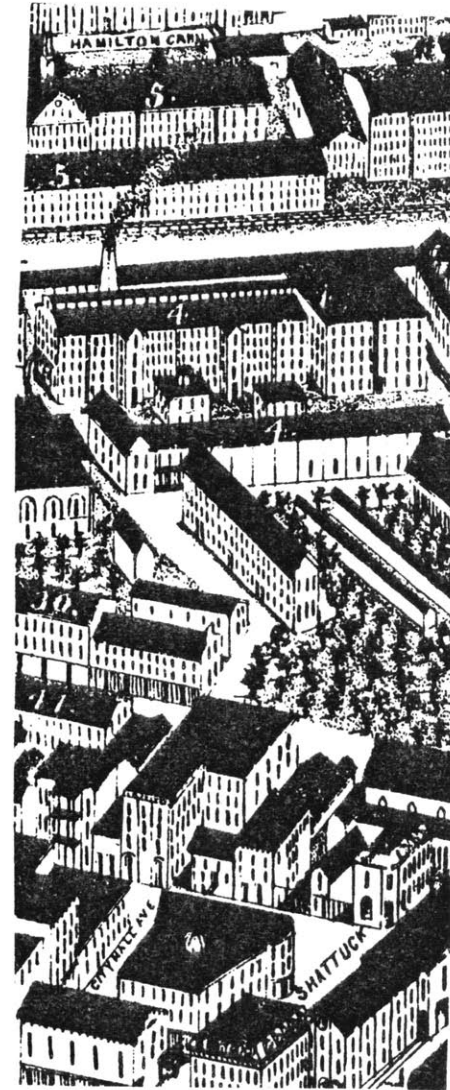
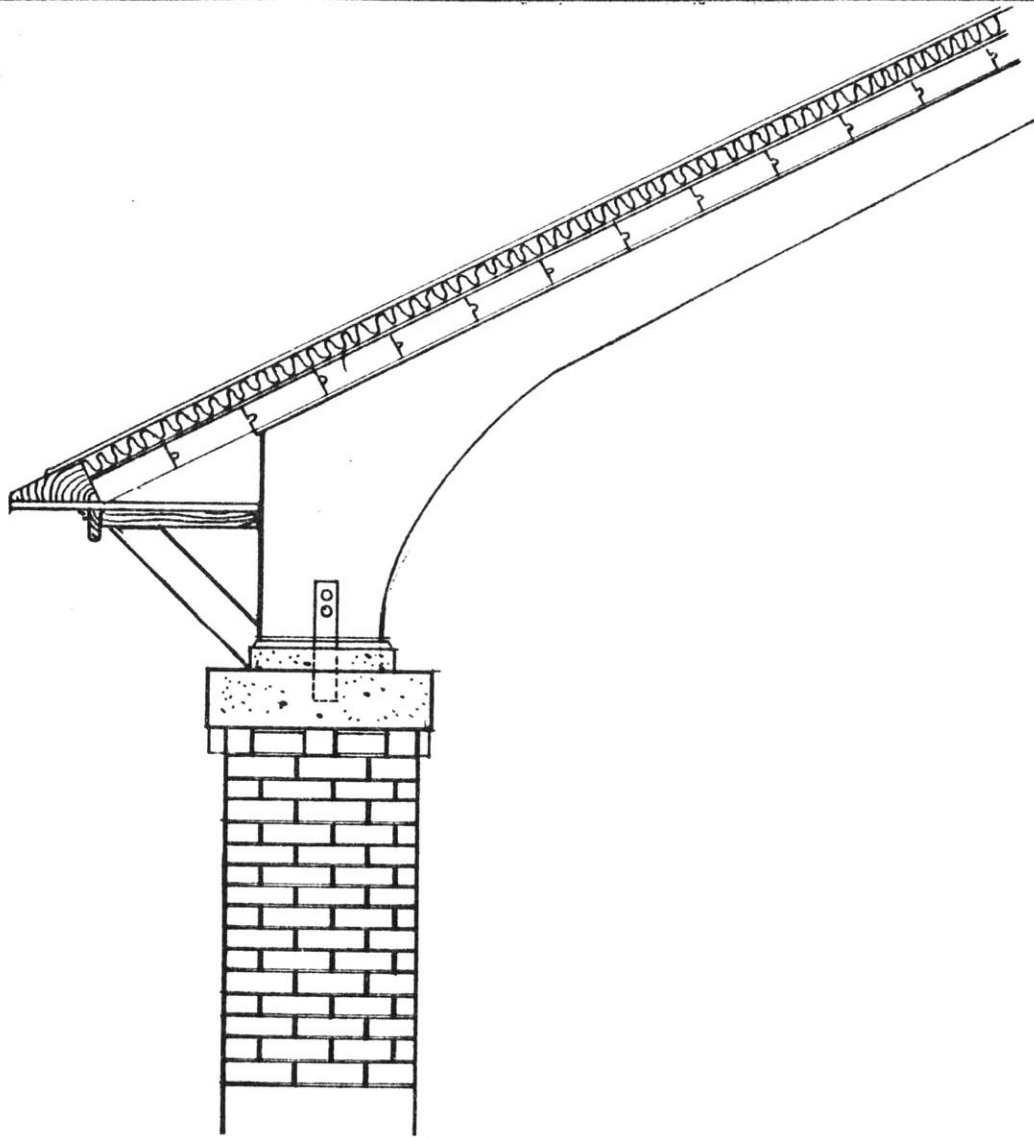


Column junction detail. Open web steel joist joins plate set on top of brick veneer column. Steel strut attaches column to roof edge. Large overhang makes a deep cornice shadow.



Lobby space study section, above. Final section, lobby space, above right. Plan of king post truss that forms the highest roof of the lobby space, and roof plan detail of lobby junction, below right.



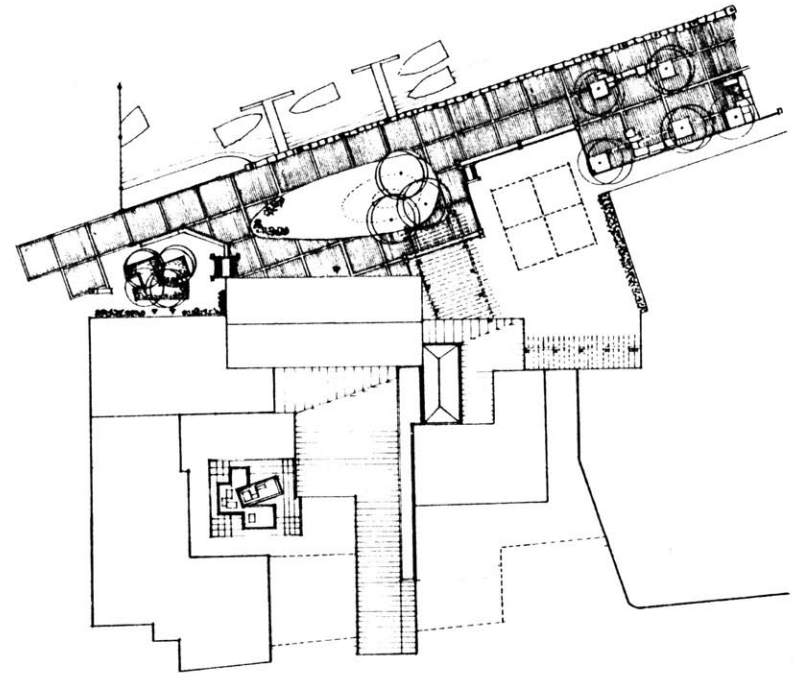


Column junction detail: An alternate structural possibility for the lobby space.
A laminated wood truss meets the brick column.

The Yard

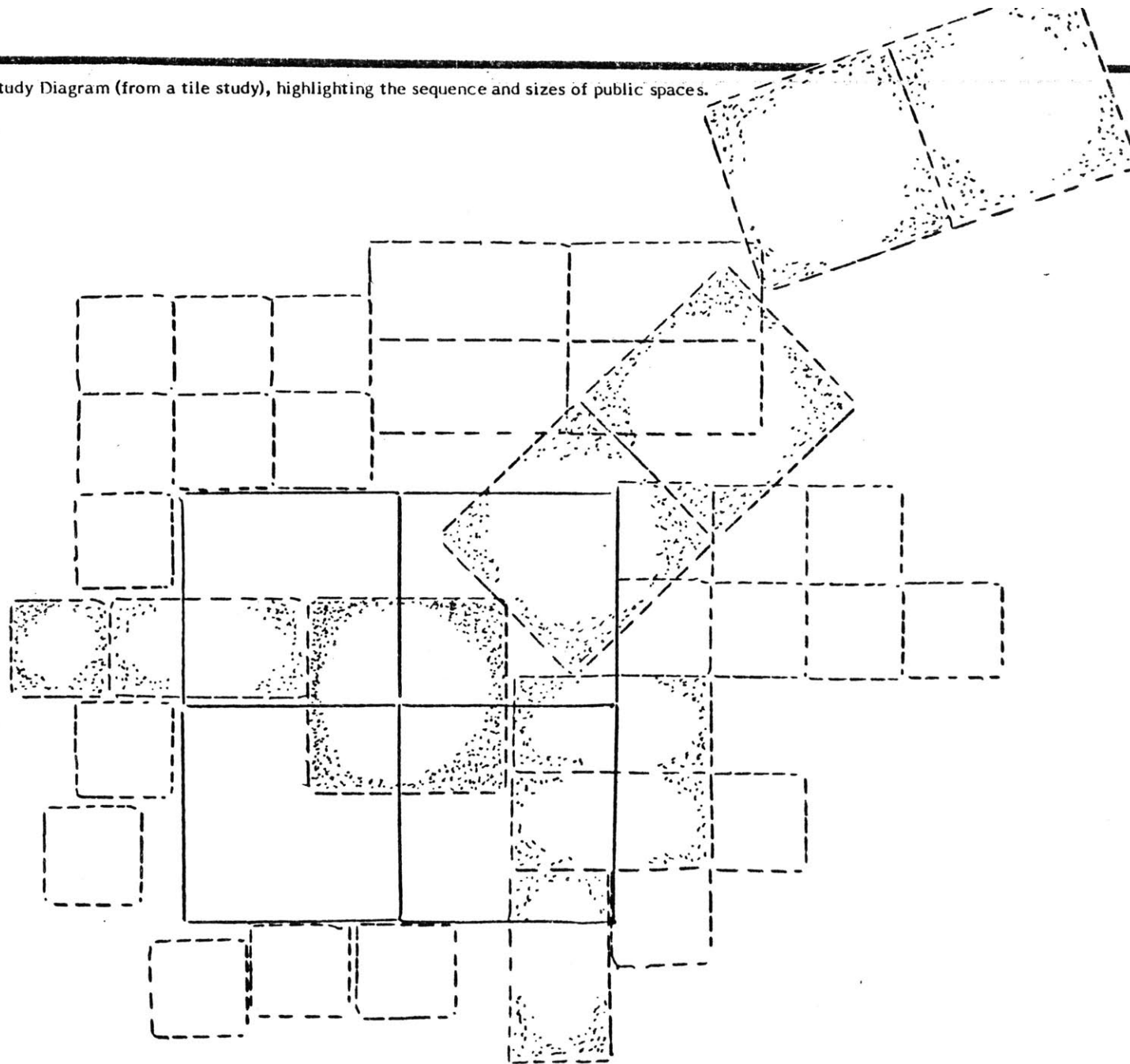
The "yard" for this hotel was conceived as a way to provide car drop off for the hotel patron. It is allusive to the yards that formed in mill complexes by the closing in of massing in certain areas. There is a need to allow for circulation for people and vehicles, for delivery and access.

The yard is primarily functional, not sculptural or aesthetic. It accomplishes these secondary qualities only after its function is performed. The yard could also take a harder form, perhaps completely of cobblestone with simple paving patterns for ornamentation. It is a place of access first. The increased ventilation and daylighting of this courtyard organization are of tremendous benefit. Increased perimeter area is of great benefit to this program. Corridors can, in some cases, be double-loaded thus increasing the number of rooms possible in this small structure. Views, which occur in numerous directions on this site, can be maximized.



A study of the progression of open spaces: canal to terrace to "yard".

Open Space Study Diagram (from a tile study), highlighting the sequence and sizes of public spaces.

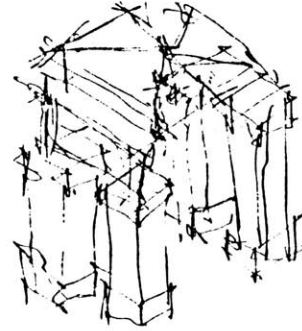


The Structure

The New American House Hotel is a composite structure using a typical 20 by 30 bay system. Steel columns and concrete floors form the framework. Columns that are exposed are brick veneer. The exterior fabric is brick veneer and utilizes concrete lintels over windows and some other major openings. The roof will be zinc alloy standing seam roofing where slope exists.

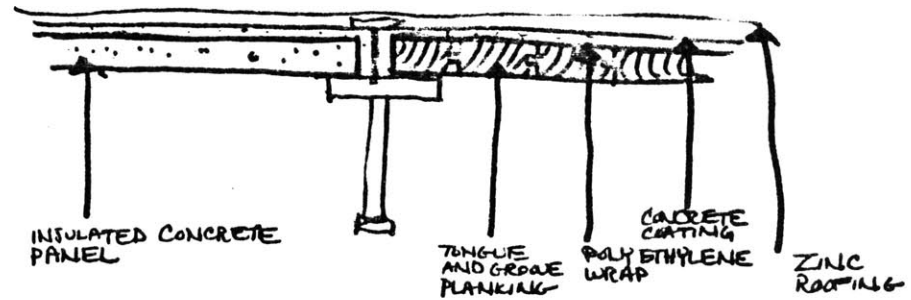
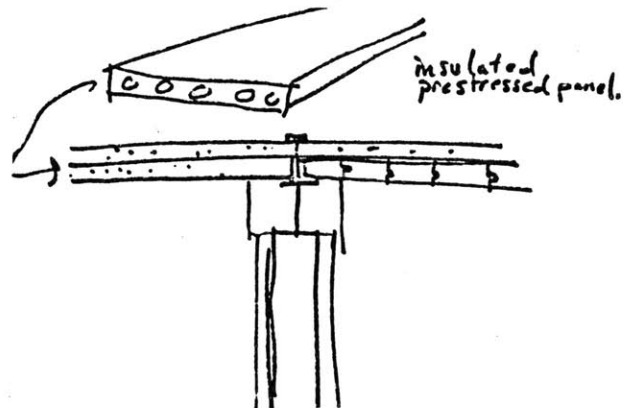
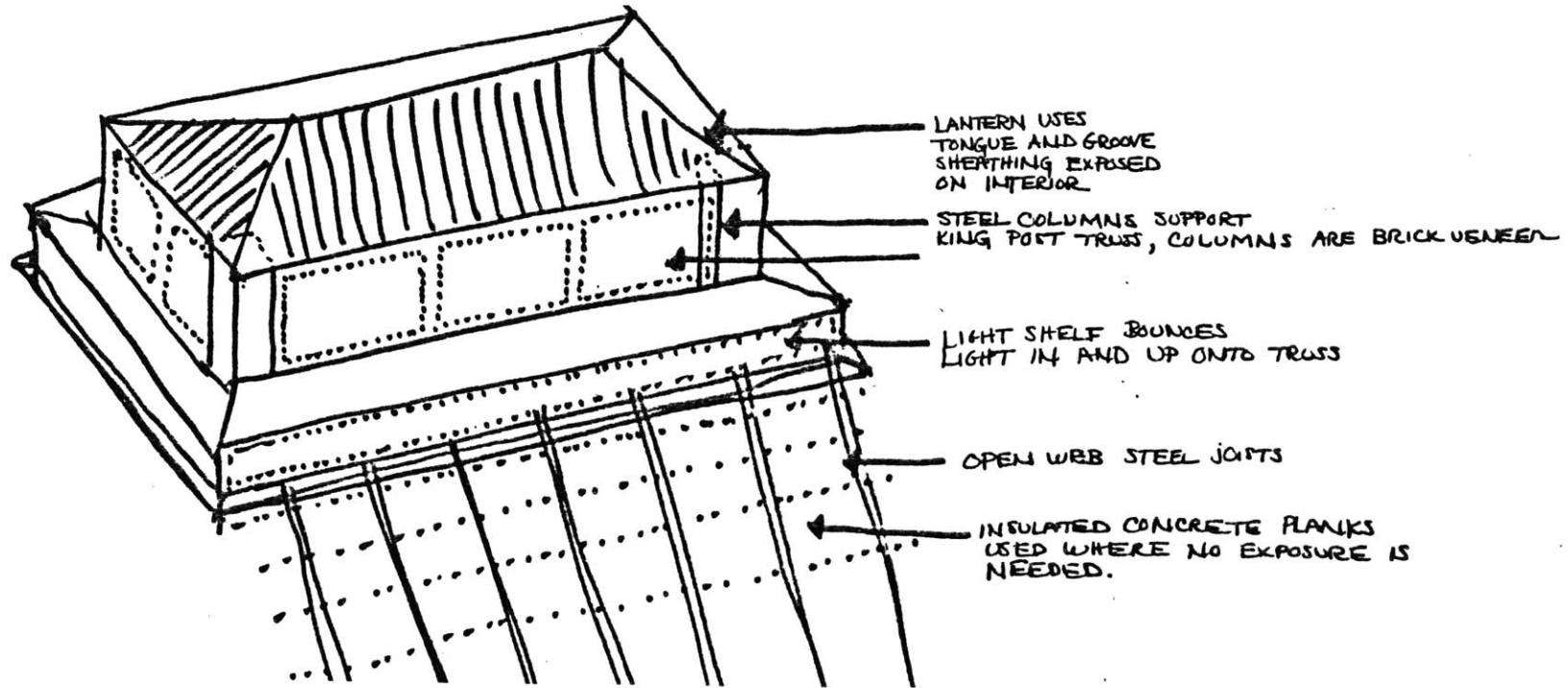
The lobby will utilize open web steel joists with precast concrete panels with topping, but where exposure is desirable, tongue and groove planking wrapped in polyethylene will replace the present concrete planking. The open web steel joists, when joined to the old structure, will rest on columns (steel with brick veneer) set out four feet from the wall, making a use territory and preserving the integrity of the old structure. The joists will rest on the columns and cantilever the additional distance to achieve joining with the old wall surface.

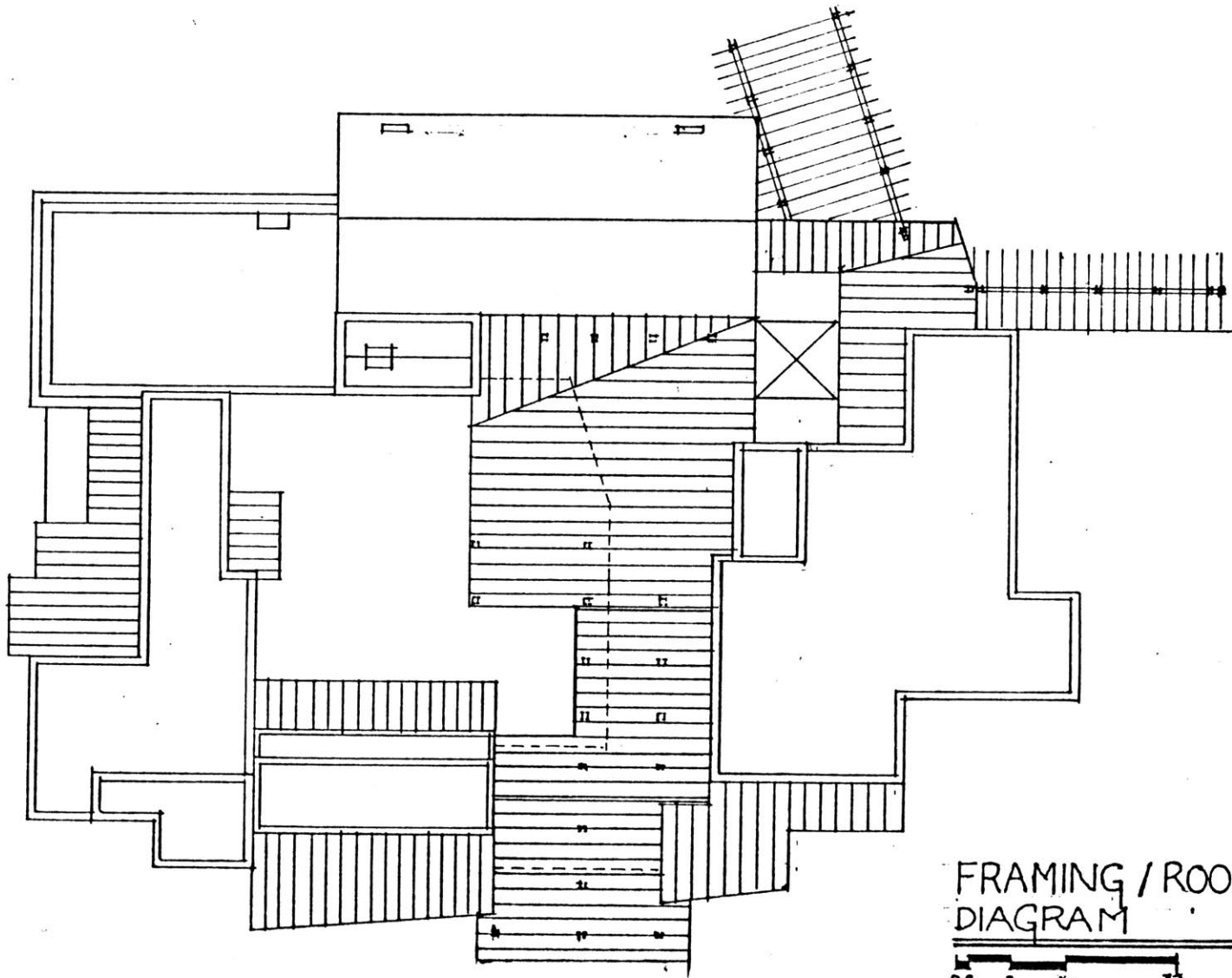
Granite post and lintel systems will be used on the western (front) face of the building and along the "yard" elevation.



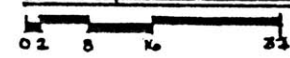
In the old Frye Tavern the wood beam floor system will be cut away to form a mezzanine at the third story level. The old six over six window units will be utilized. Chimneys will be repointed and reconstructed where disrupted.

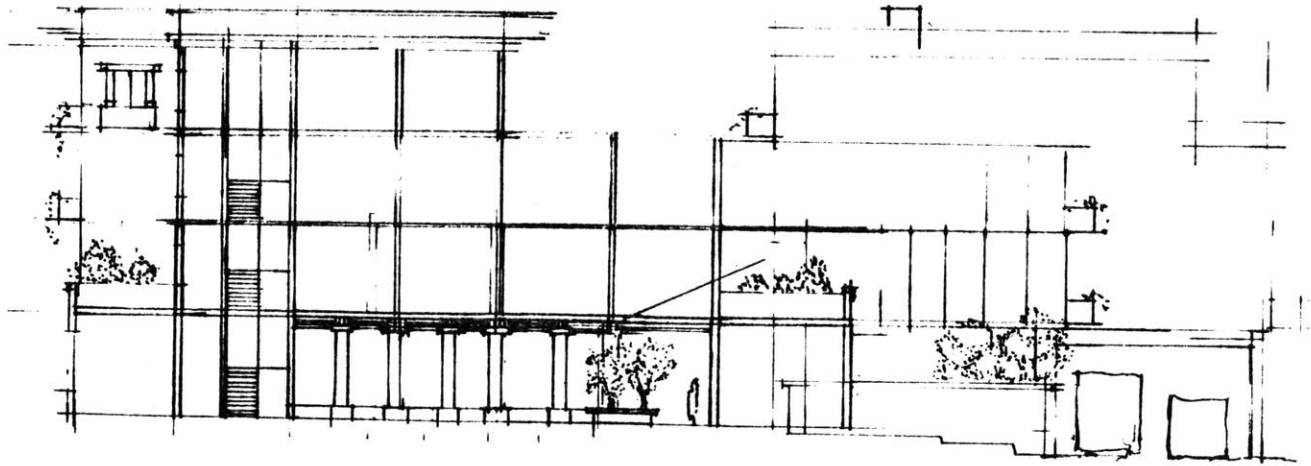
In the old American House Hotel, the eastern chimney will be repointed and reconstructed, and the two over two window units will be restored. The cast iron hoods and cornices are in excellent condition. The south brick bearing wall be opened up considerably, utilizing concrete lintils, and exposure to the downstairs public areas will be highlighted. Windows can close off noise from below from the room territories when desirable.





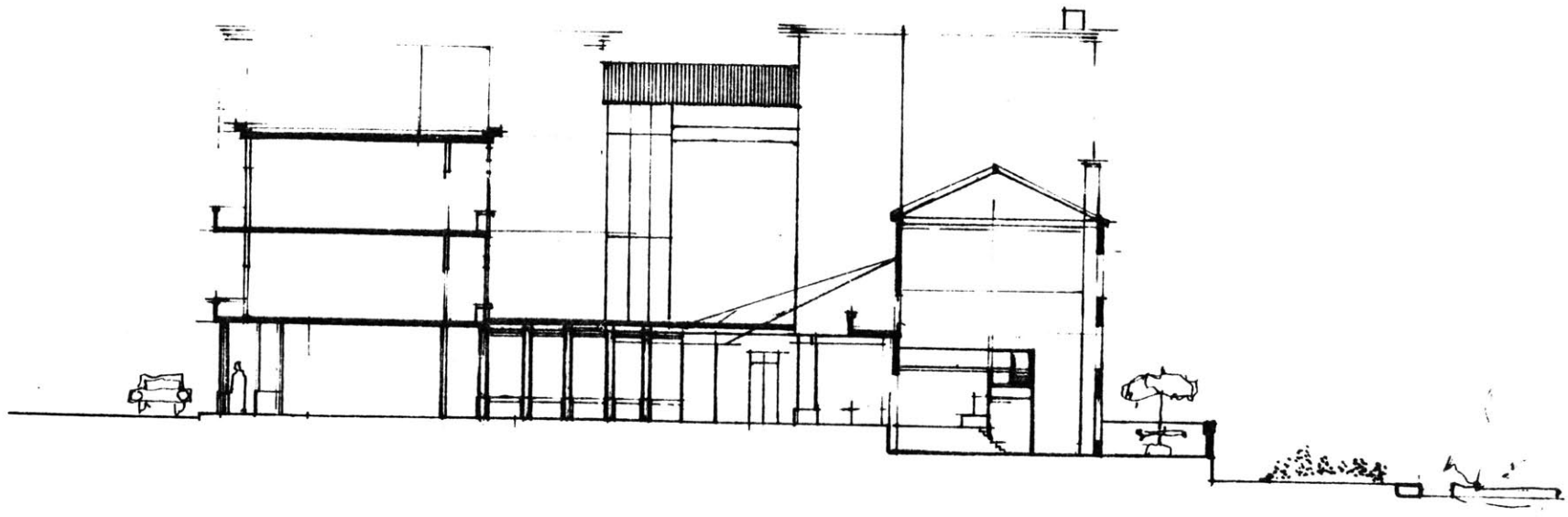
FRAMING / ROOF
DIAGRAM





SECTION C-C

SECTION D-D

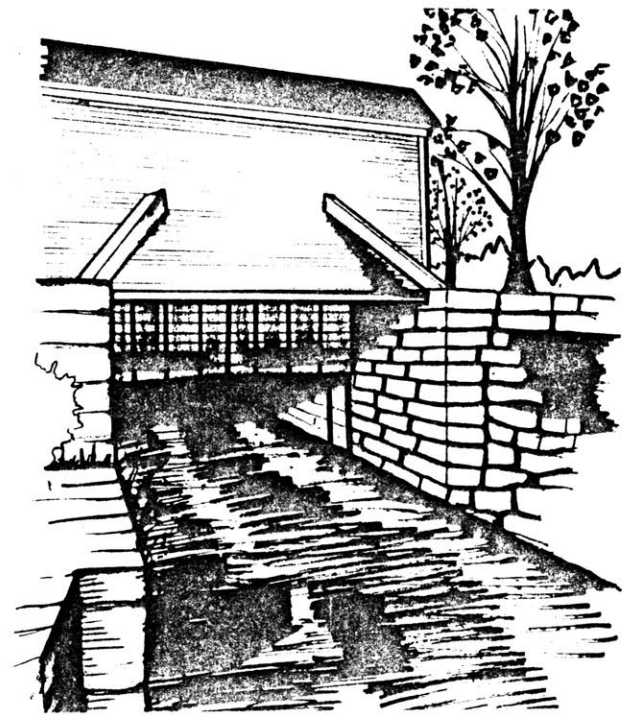


The Site

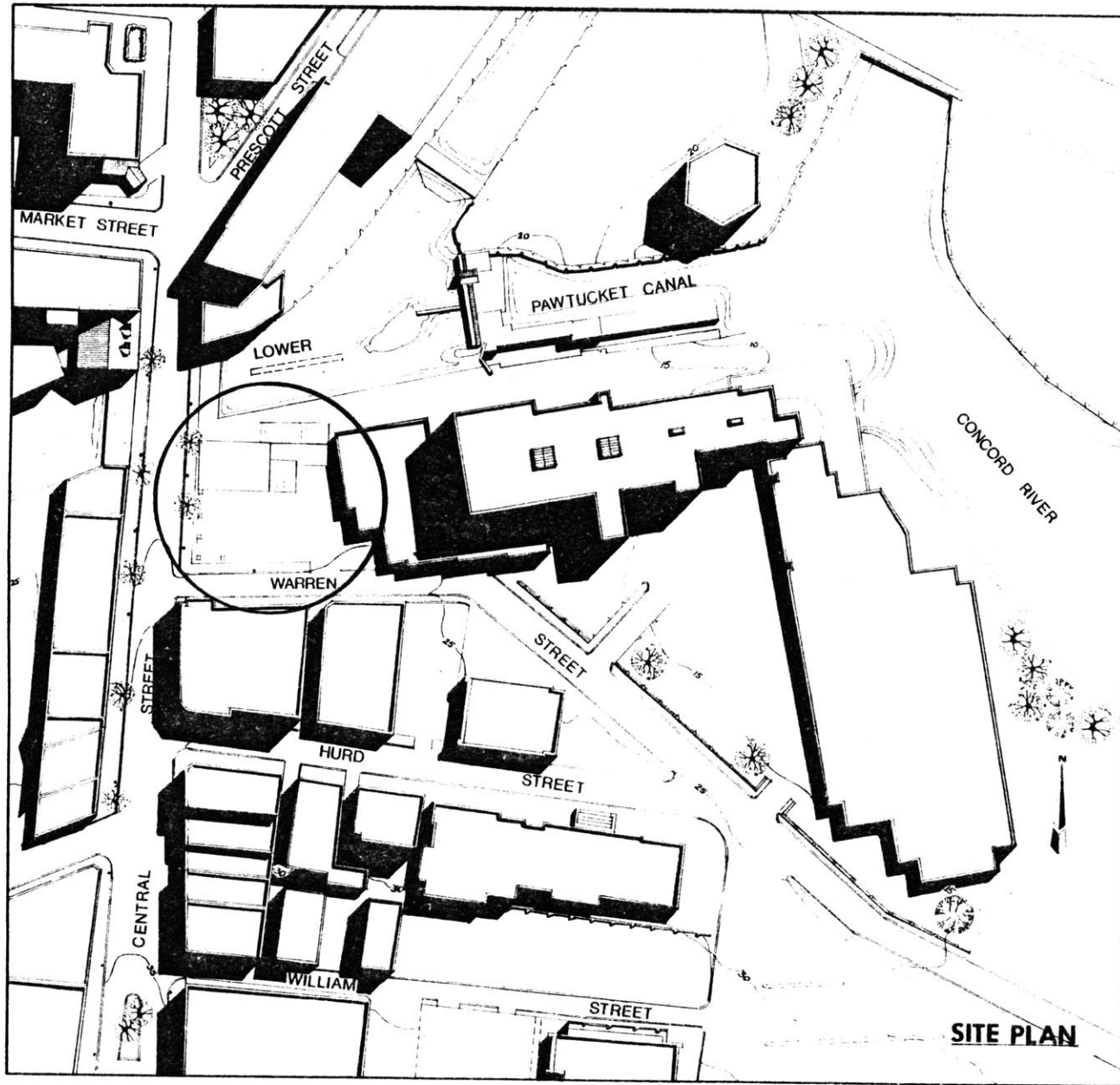
The lure of moving water is a strong one for mankind. The activities associated with a waterfront site can provide an instant source of inspiration, reference, and excitement. Water registers in our minds and in our souls an image of reflection and hidden power. Moving water also implies connection to other places, continuous within a system of nature and a part of that system, free. The openness of the water, its smoothness and ever changing surface, the sound it makes assuage our yearnings, comfort our claustrophobia in the city. How water can open a city to light, sound, breezes and new textures!

The canal, in itself, provides this site with its strongest attraction and metaphoric meaning. We are drawn to the follow the path to the water. Traditionally streets have led to and from the waterfront growing in a radiating fashion from "the source". We expect path to take us waterward and then we feel safe in following the water's edge knowing it leads us somewhere.

Water provides us with the mirror both of ourselves and of our landscape. We want to get right out into the edge, feel the danger of looking over at the reflection. Suddenly a smooth flat surface no

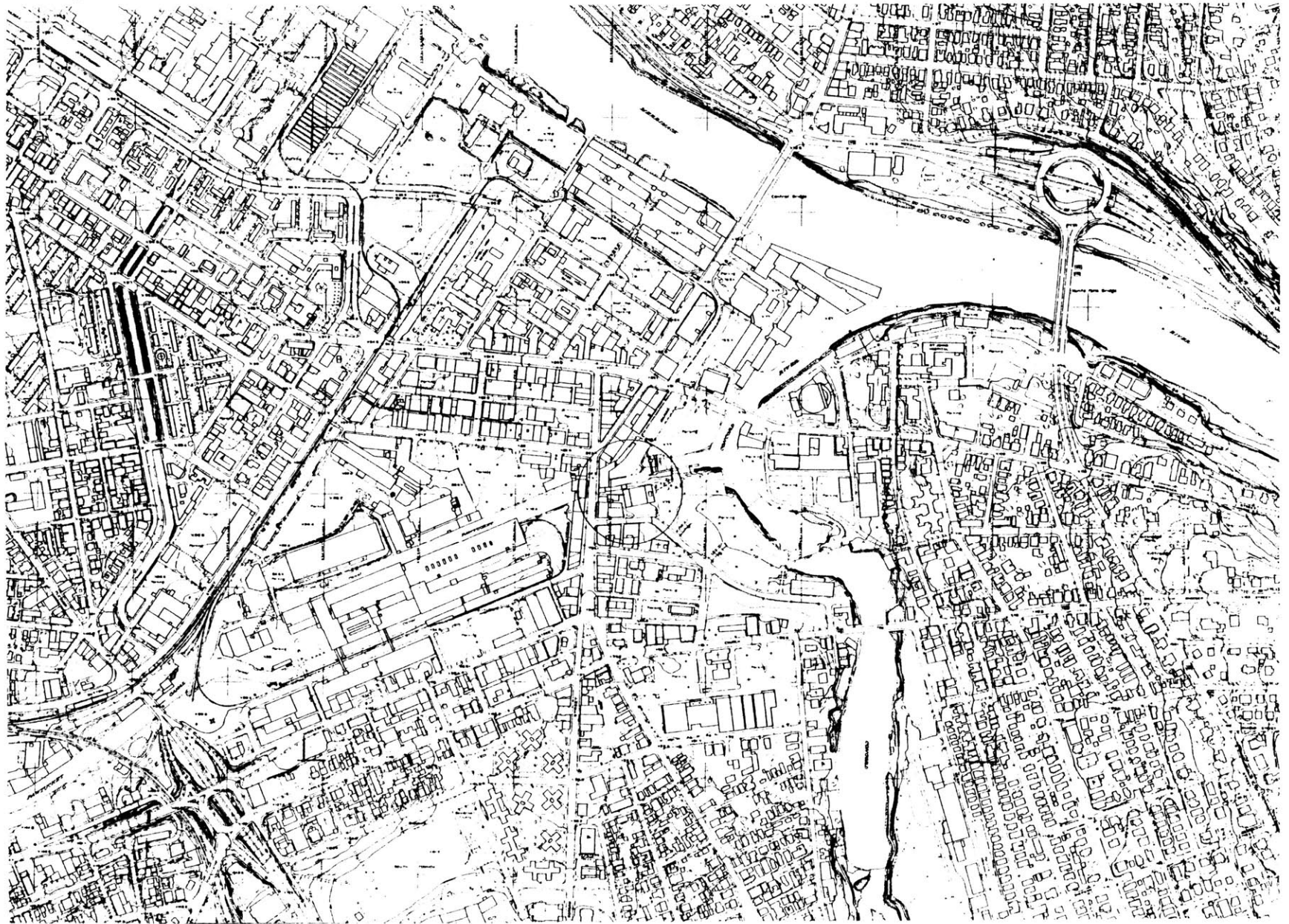


Francis Gate Guard Lock.



SITE PLAN

The site, with the proposed Hilton Hotel and garage, Wang Conference Center, and existing neighborhood.



longer means a surface on which we can walk. We are stopped; we search for bridges.

The site of the American House Hotel is bounded on the north side by the Lower Pawtucket Canal. This canal, with its lock chamber carried barges and boats to their New Hampshire destinations to the north, or the ocean at Newburyport. The Frye Tavern provided early entertainment and lodgings for the boatmen.

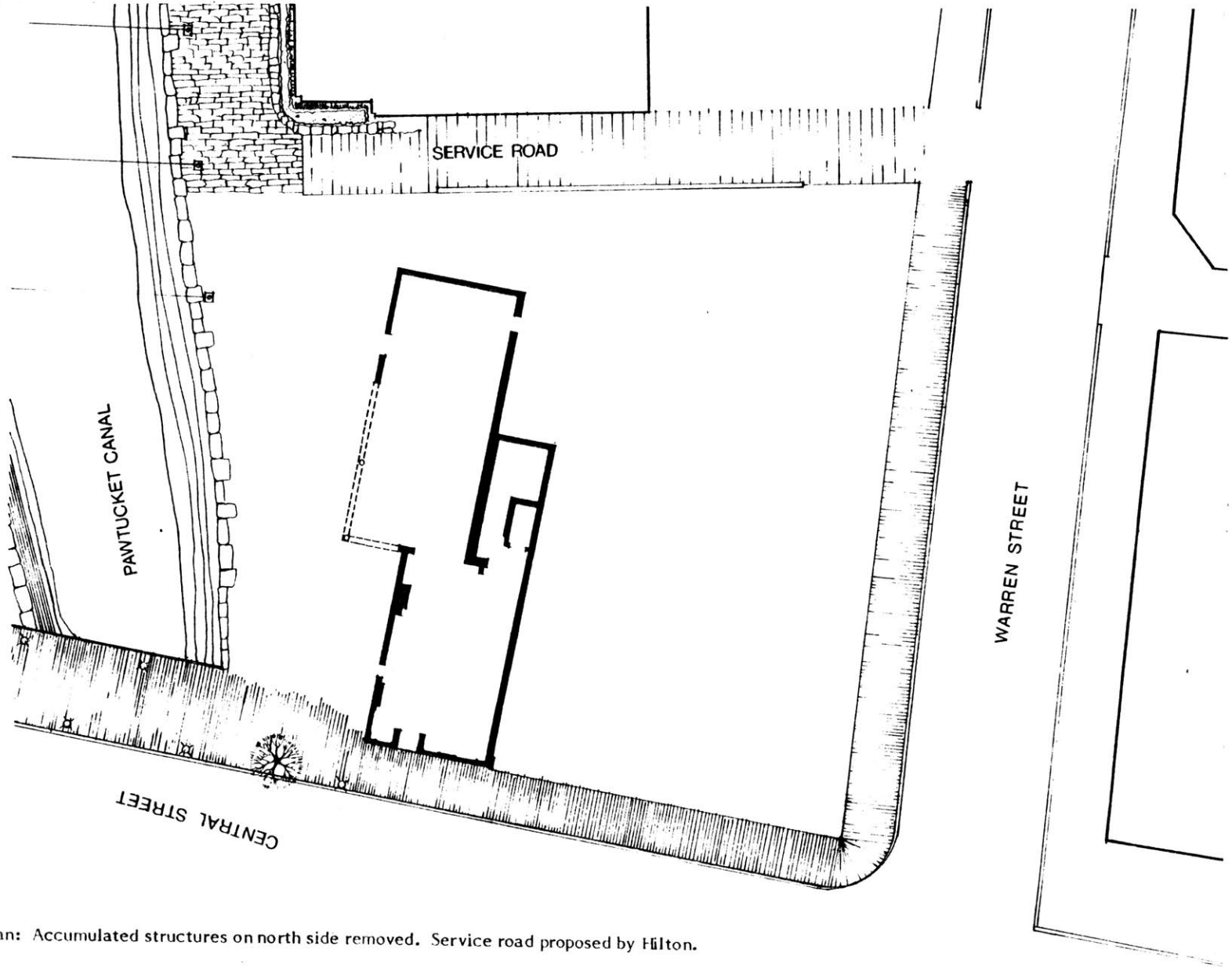
The American House Hotel faced the Central Street edge of the site, and signalled the decrease in emphasis on the canal for transport and the emerging emphasis on the street. Mill buildings occupied sites across the canal and east of the site. The Strand Theater was infilled in 1917 against the American House Hotel block to form a solid street edge, with no breaks or views of the canal possible.

The site presently has a paved parking lot to the south, 8320 square feet in dimension. To the eastern rear of the building ground has been broken for a 150 room Hilton Hotel. The site presently has a six percent slope, but the canal promenade is flat, with only a six inch drop to the water. The canal water's

height is regulated by guard lock complexes upriver, so the level is relatively constant. A massive flood gate reduces the risk of flood to the area downriver from the Guard Locks complex

Central street borders the western edge of the site; with Warren Street forming the southern boundary. Central Street is a busy commercial street with many low rent shops. An effort at restoration is being made along this street with some partial restoration of cobblestone paving on the street, brick sidewalks, and cast iron benches. Trees, a Victorian clock, landscaped islands, and and Victorian lampposts have also been added. The facades along Central Street are mostly flat roofed Victorian Gothic. The long two story structure directly across the street from the American House Hotel is a 1912 Neo-classical building. The brick used was yellow in color, and white terracotta trim was used as ornamentation.

Along Central Street, pedestiran traffic passes at the rate of about twenty people per minute. Children on bicycles are common. Vehicular noise was high, with 25 to 30 cars per minute passing during a non-rush hour. Cars move slowly. Parking



Site plan: Accumulated structures on north side removed. Service road proposed by Hilton.

is limited, available at meters on one side only. Two large parking lots (the Smith and Rex lots) are located to the east of the Hotel and are essential to the area.

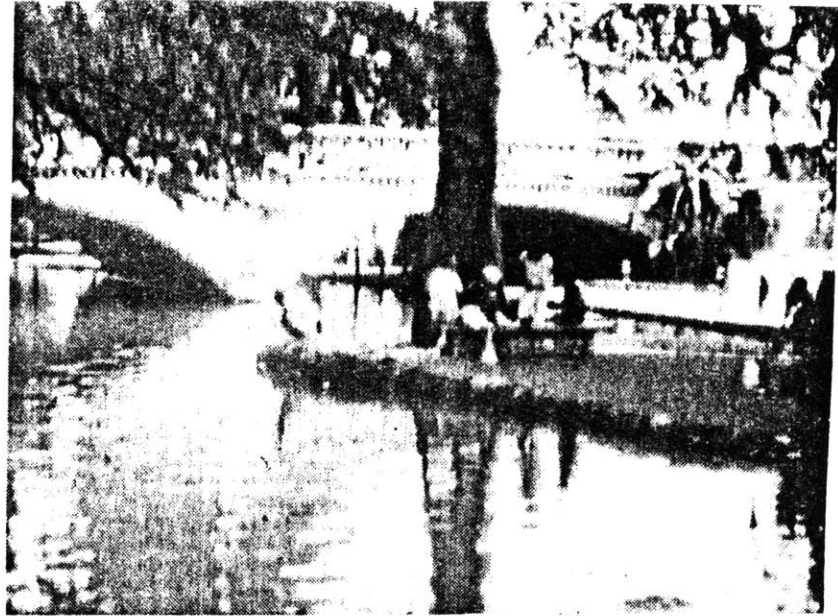
With the demolition of the buildings that had straddled the canal, the American House Hotel now has a view of the canal's source west of Central Street. A long mill complex is visible on the bank.

Warren Street, the street bordering on the south of the site is a much less busy street. Traffic passes at the rate of ten cars per minute. It is a one-way street, however, so traffic backs up waiting to enter Central Street.

Central Street offers very little possibility for pedestrians to stop, take a break and rest a minute. The few benches that are provided are located on the very edge of moving traffic. There are no facade setbacks or even any deep doorways in which to find shelter. There is a great need for a simple urban park or stopping place that might offer some solitude and peace for the rushed pedestrian. Central Street has the ambiance of a moving parking lot: noisy, chaotic, hurried. The development of a synthetic

gateway--a welcoming place-- or parks removed from this din is an appealing design option.

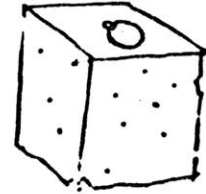
The Wang conference center, planned on the northern side of the Pawtucket Canal, is to be connected by a footbridge to the southern side. The Lower Locks Guardhouse, to be restored in 1984 straddles the canal and will provide a strong lure for pedestrian traffic to move along the canal front.



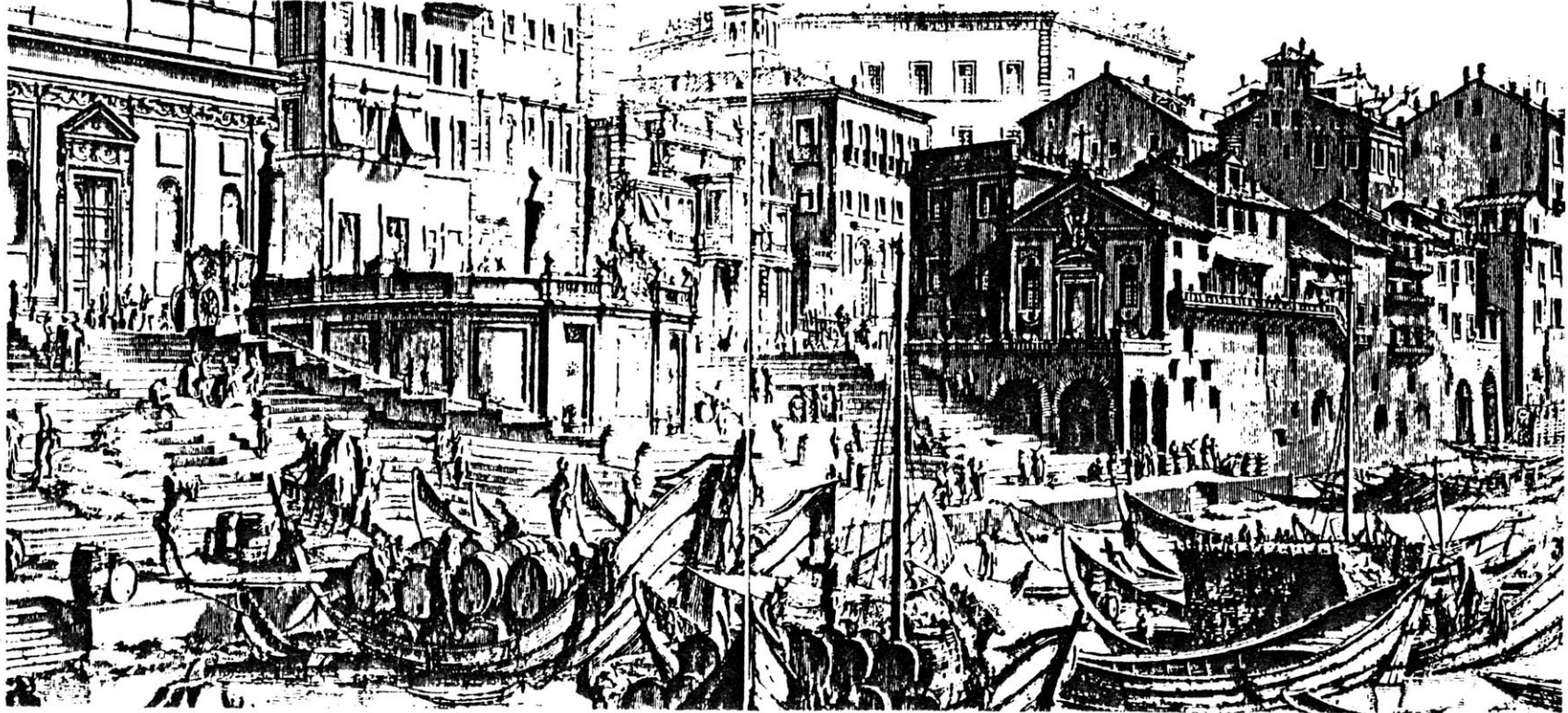
River Walkway, San Antonio, Texas.

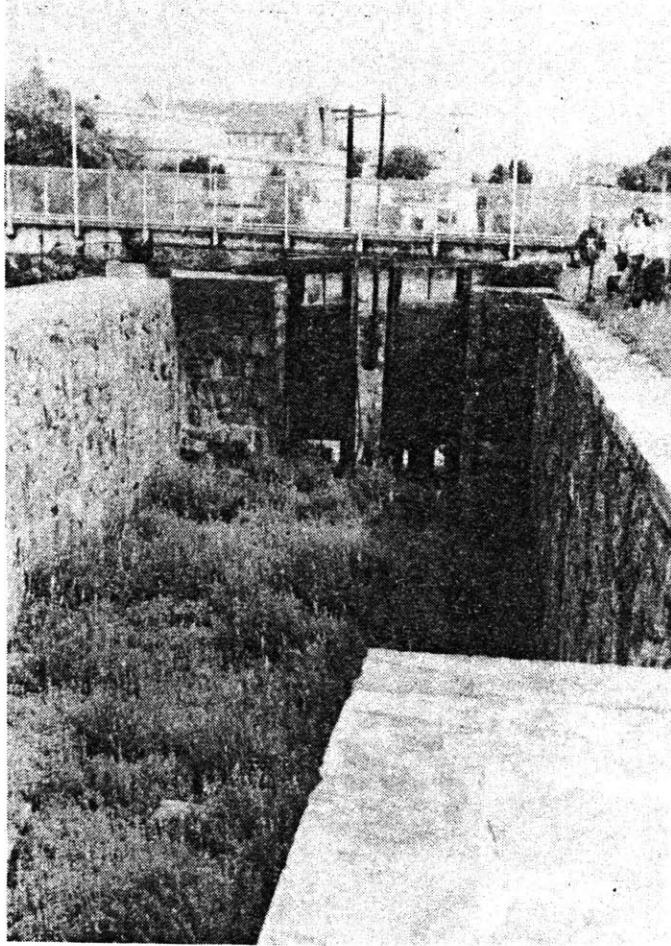
The walkway along the Pawtucket Canal was developed as a continuous element. It serves as an urban park in itself. More than that, it serves to interlock a continuous necklace of green spaces and historic sites around Lowell. This canal walkway could dovetail with other tourist areas to form a system for pedestrian movement.

The Canal Walkway

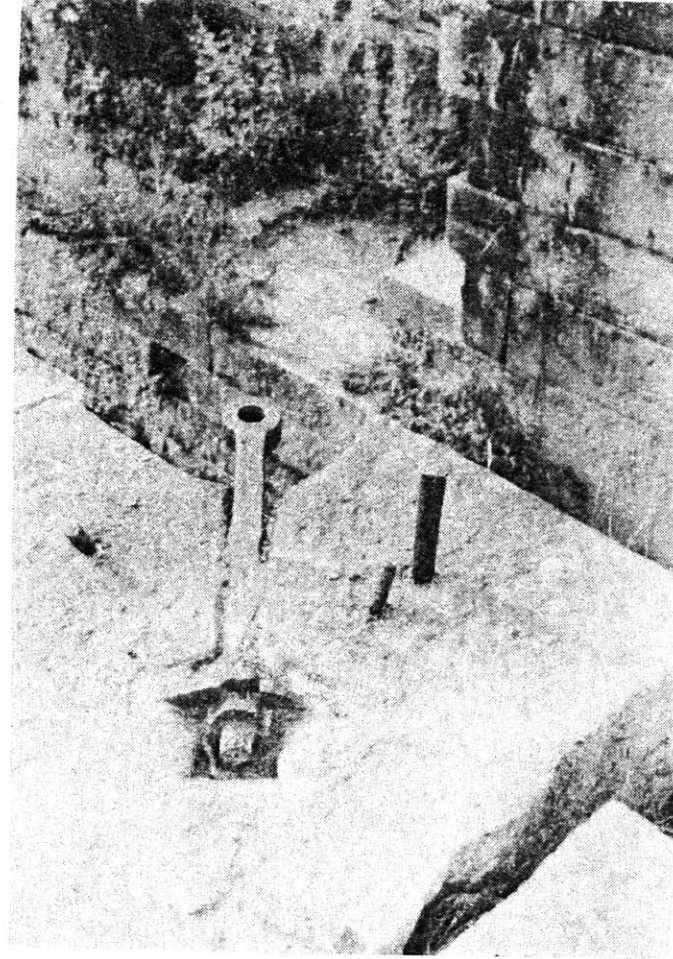


The Ripetta, Rome.



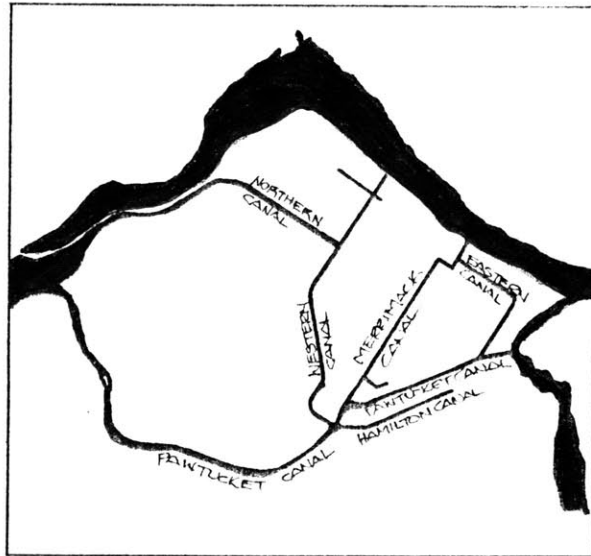


The Lower Locks gates and lock chamber.



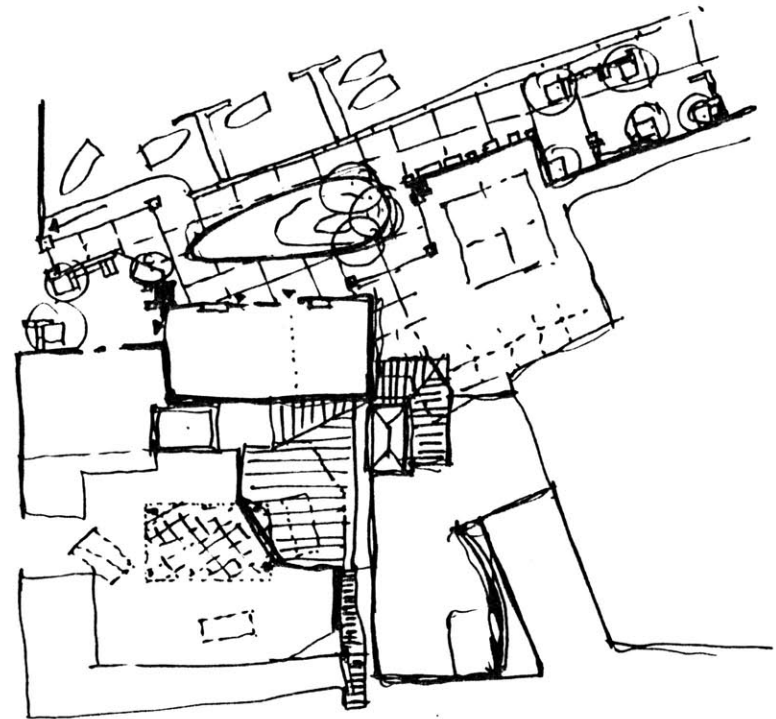
A detail of the granite blocks forming the canal wall, with a cast iron hinge inset.

The walkway itself went through several phases in its development. Looking back at garden references of the 1840's little precedent can be found for an industrial commercial landscaping approach. Domestic scale gardens, formal in character and sentimental in effect, were popular⁸. Looking at



The Lowell canal system.

A study of the spaces of the canal walkway, with pedestrian connections through the building, and to the "yard". The final landscaping design emerges.



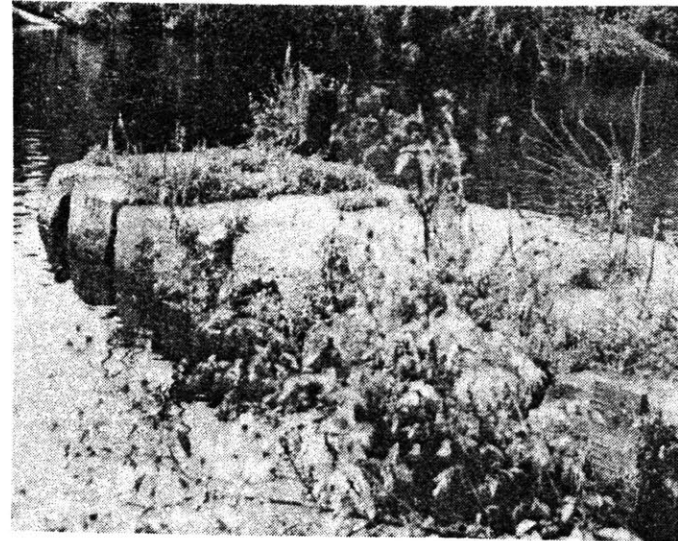
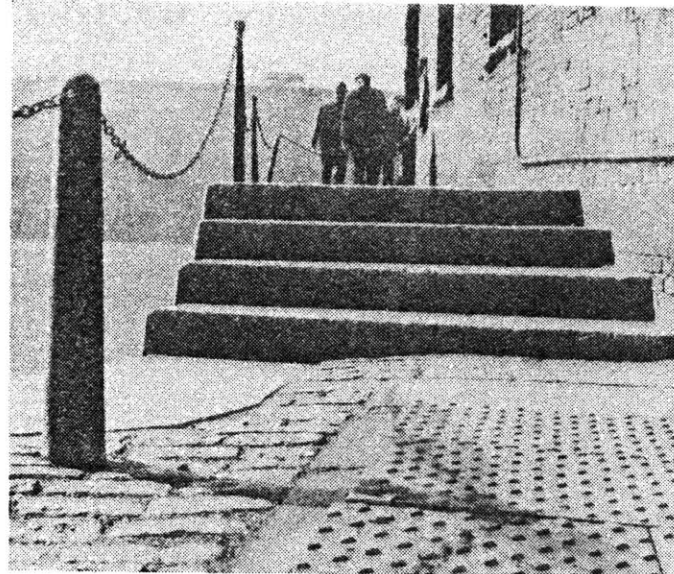
mill complexes or hotels of the era offered a little more potential, but these efforts at landscaping were spontaneous and functional outcroppings of the industrial landscape.

⁸Castell, Robert, English Landscape Gardens, London, Garland Publishing Co., 1982.

Canal bankings were often the place where piles of dirt were heaped to provide a natural barrier against the spillage of water. Grass grew on these hillocks; people had lunch and played there. Often the canals were edged with wrought iron rails or wooden picket fences. The walkway was, however, always functional, almost like a boardwalk, providing a smooth surface to rise above the impassable mire.

The hotel needed some connection to the outdoors for its modern function of allowing the hotel goer to bask in sun or shade or play a game of tennis. Just enjoying the scenery and watching the boat traffic or passers by needs to be encouraged. The large terrace area provides this space. Trellises provide a leafy ivy covered space that could capture some garden ambiance without the domestic allusions of flower beds and plantings. All walls of the old structure will be planted with ivy.

A passageway leads beneath the bridge and could connect to a continuous pedestrian path that leads the walker along the canal, past historic mill complexes to the visitor center at Market Mills. Simple iron bollards are provided along the edge, set in the heavy granite stones at water level. All that



A dock walkway in England.

A cast iron marker monitors the water level of the Pawtucket Canal.

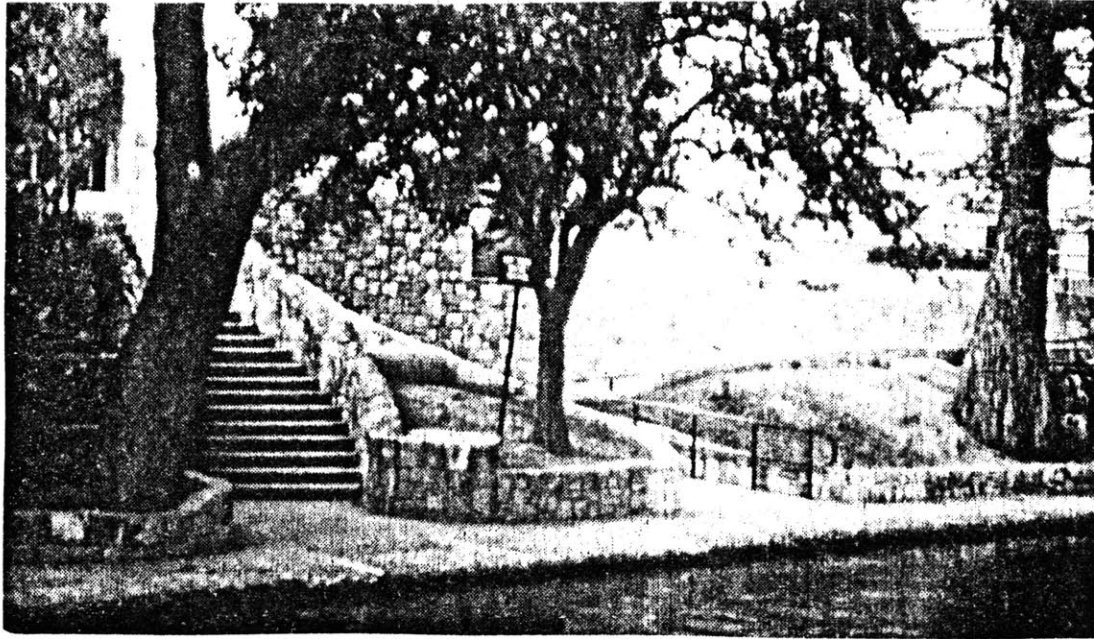
is sought here is to provide the definition of edge, something for boats to tie up to, but not containment. One of the great joys might be to sit at water's edge with bare feet in the water. (It is getting cleaner!)

A ramp leads down the slope from the Central Street area to the canal level. Boats could be put in here and handicapped can find access to the area here. The ramp also provides a natural arena or amphitheater for crowds if a show was happening on the hillock. The lower level contains the entry to the Frye Tavern. The hillock in front is lightly planted to provide some shade but not to obstruct the historic building. A grassy surface here might provide the spot where people can have lunch or lie down to take a snooze.

Kiosks of canal stones provide an area for vendors to set up, children to play or people to sit. The structure of the old canal granite stones provides improvisation which is allowed to happen as use dictates.



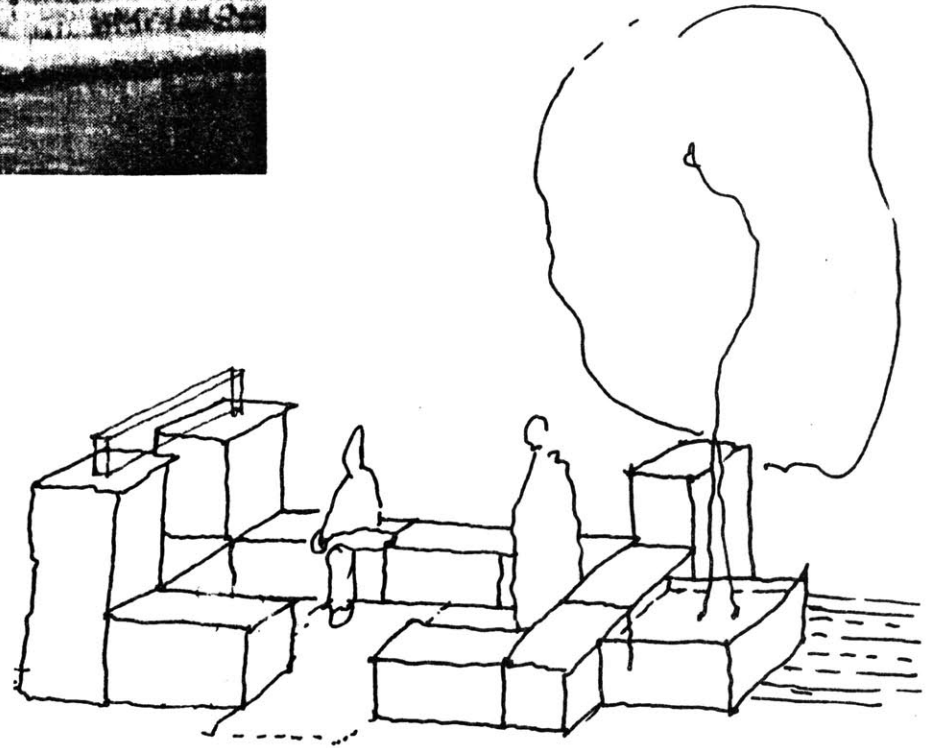
A sketch of the canal walkway area.



A ramp and stairs leading to the level of the canal, San Antonio, Texas.

The kiosks: The great granite mill stones used as seats, platforms on which vendors can set up, or for children to play on.

The paving consists of concrete ribs with inlaid brick. The granite edge is preserved as is. There is a choice of hard paved surfaces or soft hillock. In Managing the Sense of a Region, Lynch says, "The character of the public floor, along with the control of its use, is the critical element That floor is the literal ground of body action."⁹ Choices of a range of types of areas and textures for seating are provided. Shade and sun are provided for summer and winter uses.

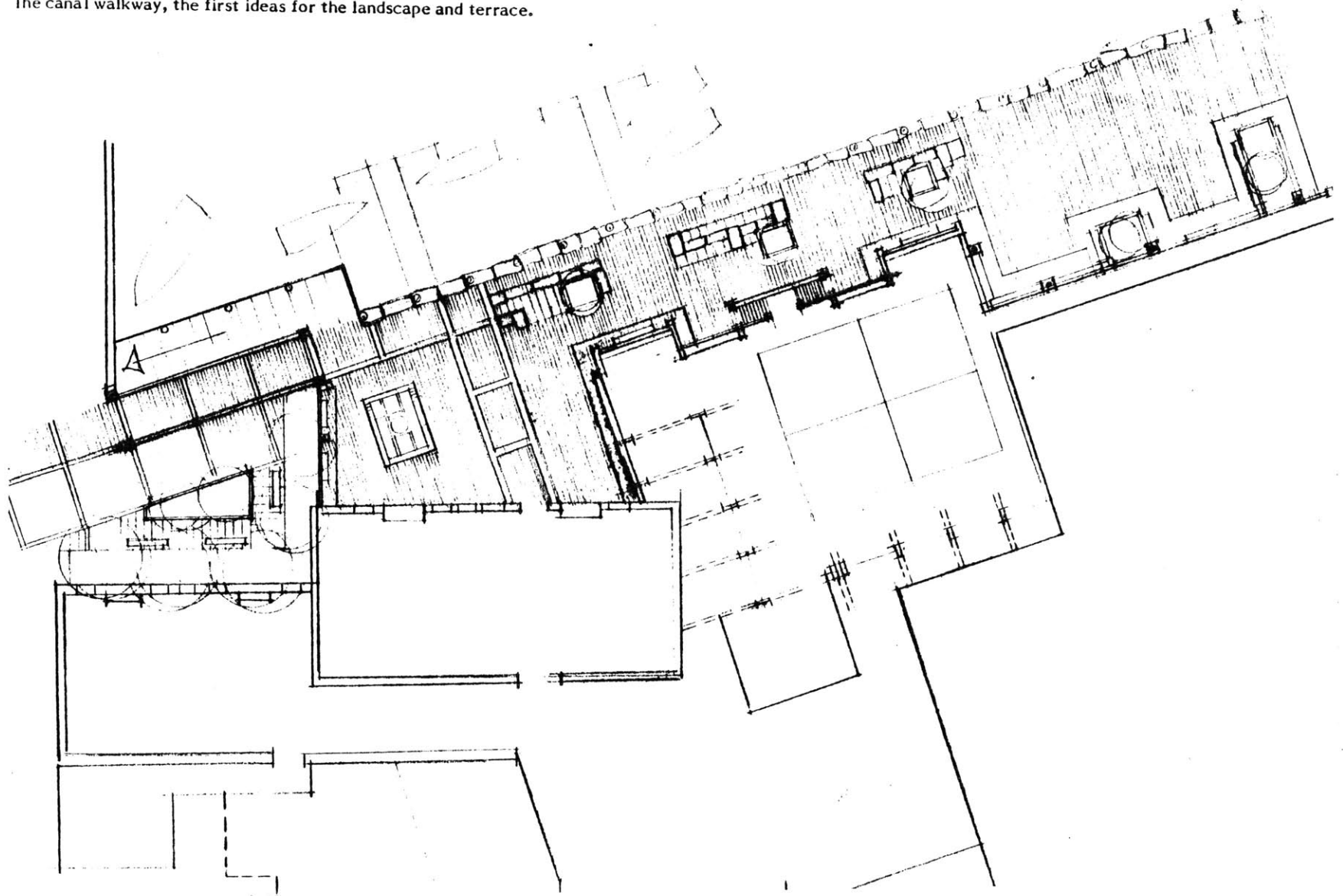


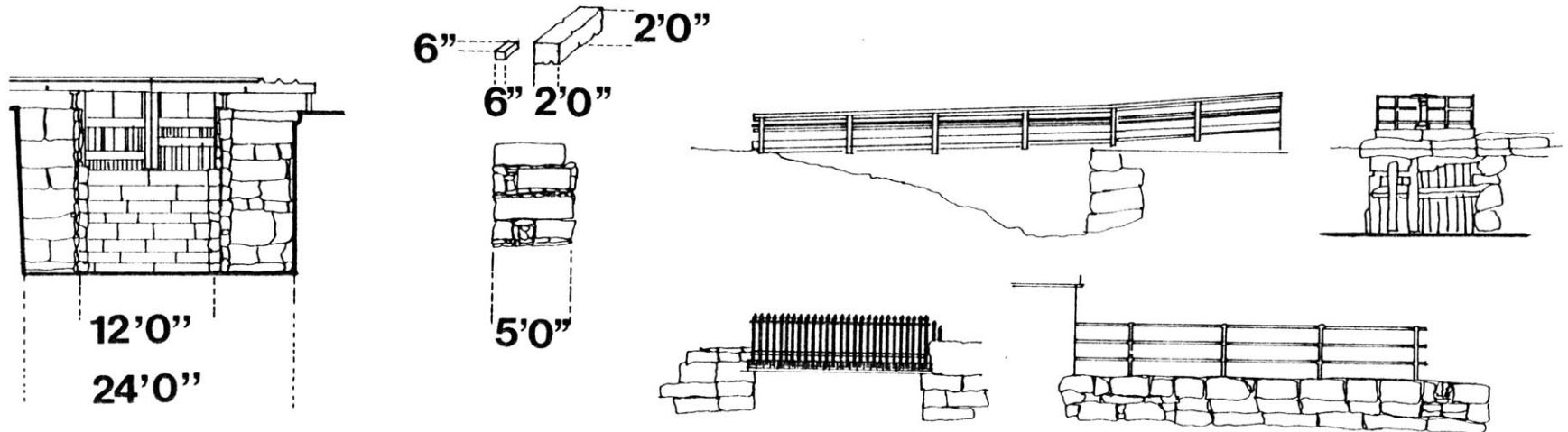
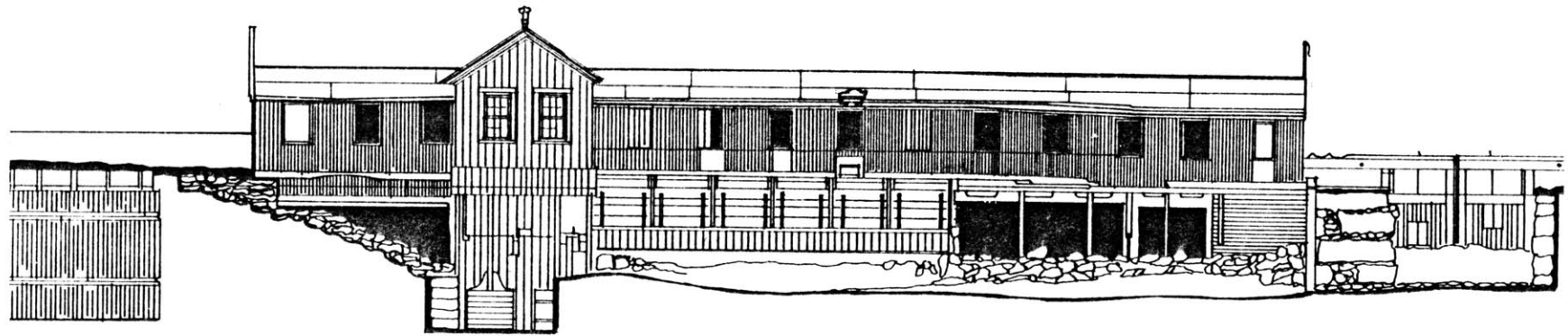
⁹Lynch, p. 16.



The proposed renovation and addition, from the canal.

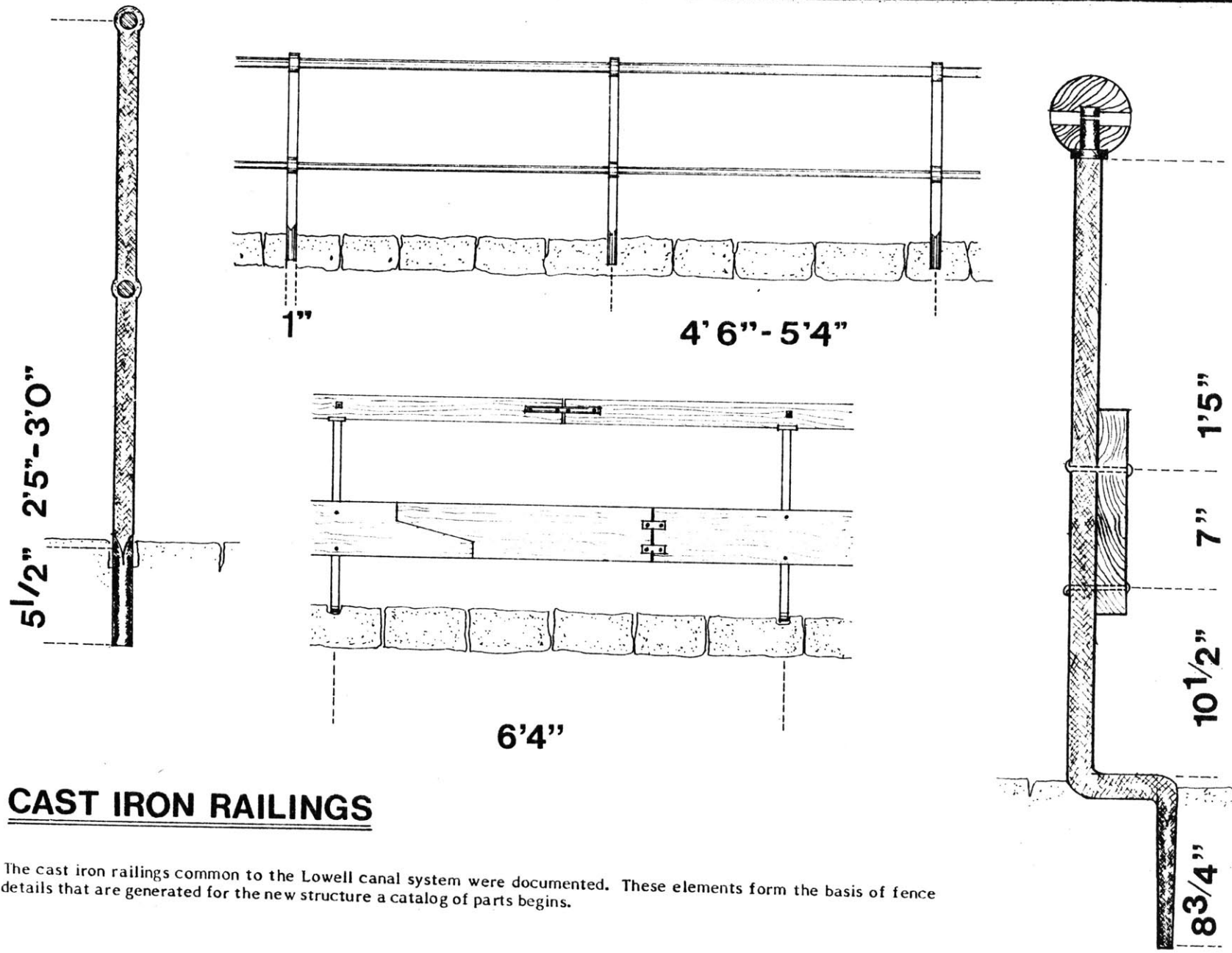
The canal walkway, the first ideas for the landscape and terrace.





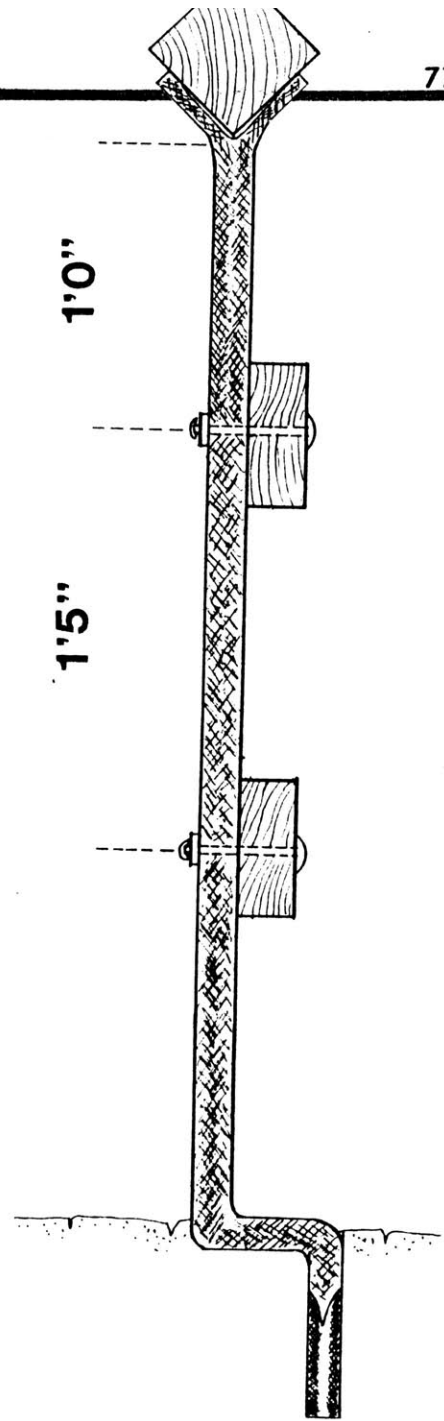
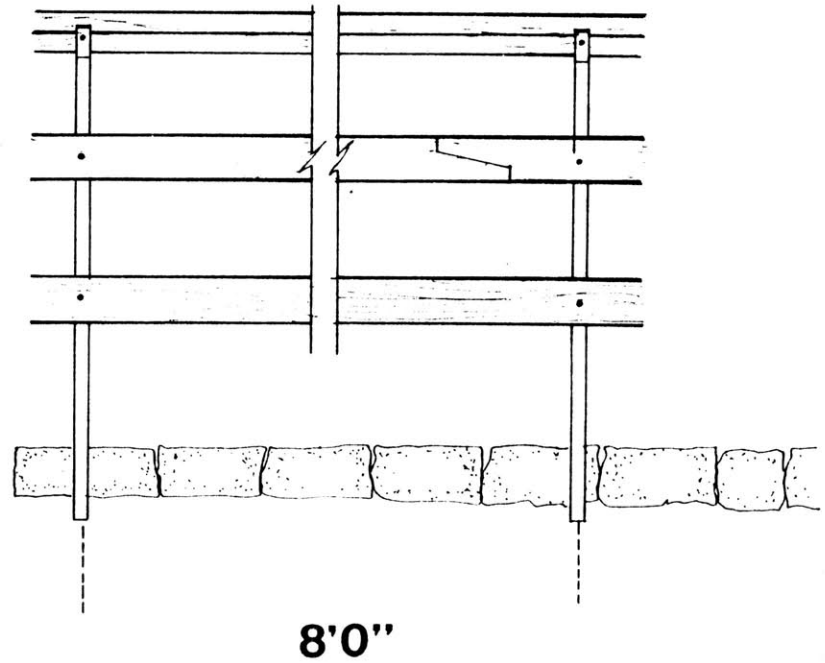
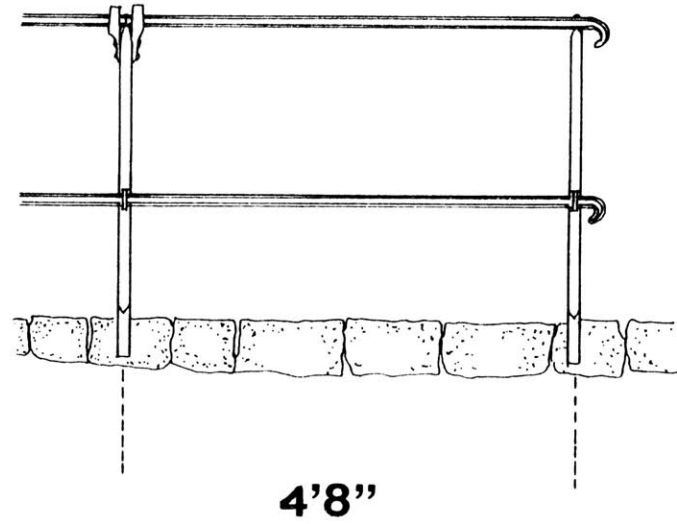
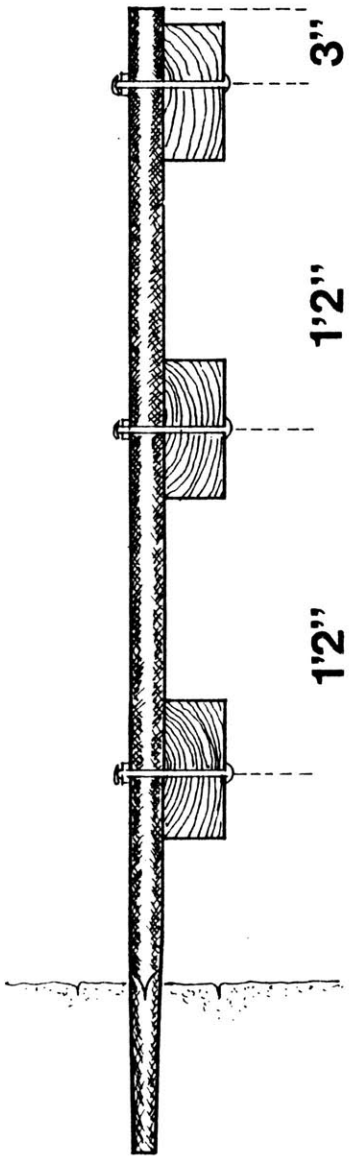
The language of the canal was studied to derive elements that are re-usable in the new environment that is evolving. Proportions were studied.

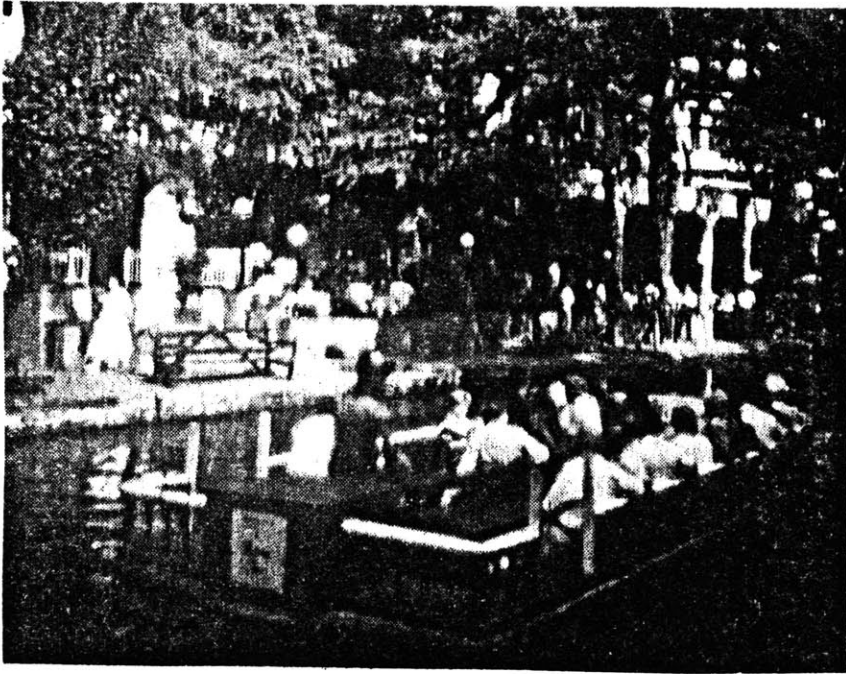
ELEMENTS OF THE CANAL



CAST IRON RAILINGS

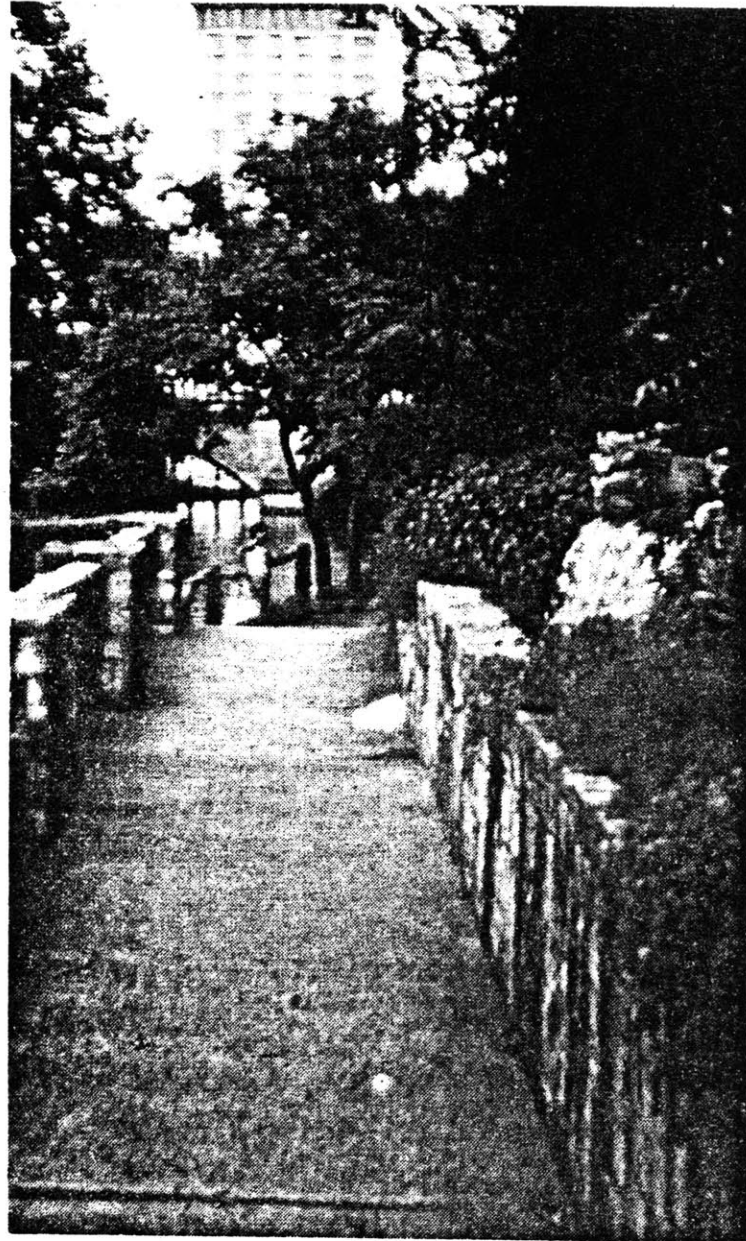
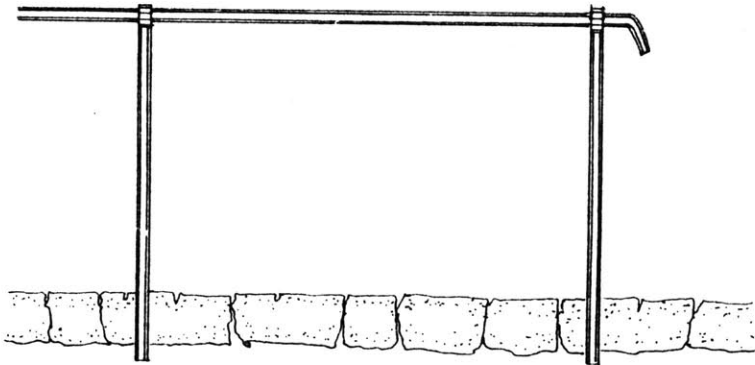
The cast iron railings common to the Lowell canal system were documented. These elements form the basis of fence details that are generated for the new structure a catalog of parts begins.

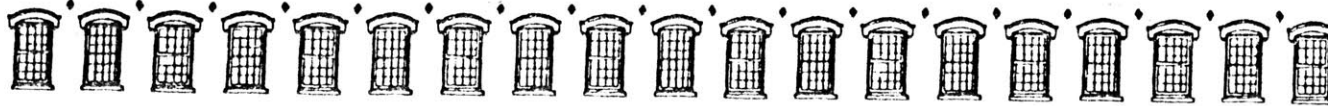




The San Antonio canal walkway.

A cast iron rail along the Lowell canal system.





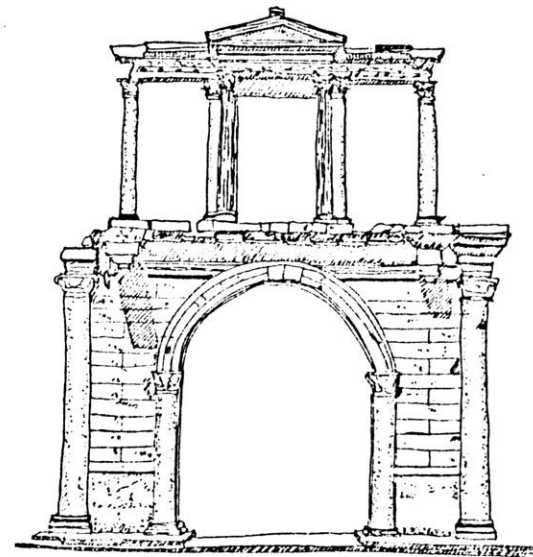
A builder seeks attractive appearance. A financier wants the resale value to be greater. Rehabilitation can achieve a winning compromise between developer and conscientious architect. It is politically popular, becoming more cost effective, and can have aesthetically pleasing results hard to duplicate with today's production methods.

The cost of renovation and rehabilitation is no longer an argument against this type of construction. First, the intrinsic value of these old structures is coming to be recognized. Second, the cost relative to new construction is decreasing. It is, in fact, more often than not, substantially cheaper. In New Uses for Old Buildings, Cantacuzino states:

The economic argument for rehabilitation or conversion is indeed a powerful one, for most of the examples . . . are not just concerned with maintaining the fabric of the old building, but introduce completely new standards and services.¹⁰

¹⁰Cantacuzino, New Uses for Old Buildings, New York, Watson-Guption Publishing Co., 1975, p. x.

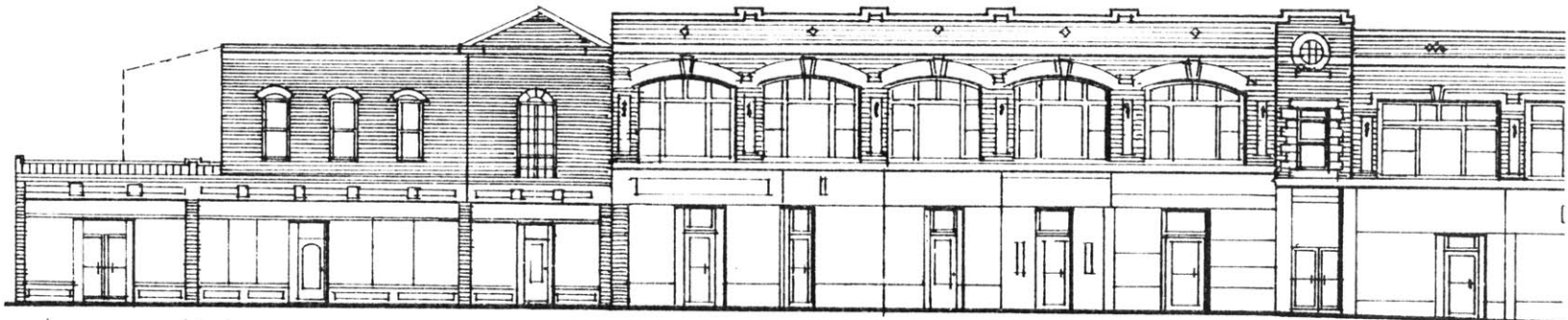
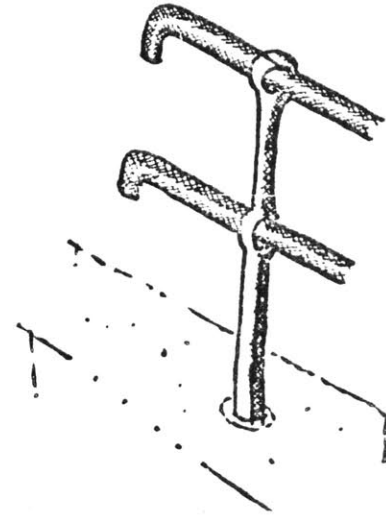
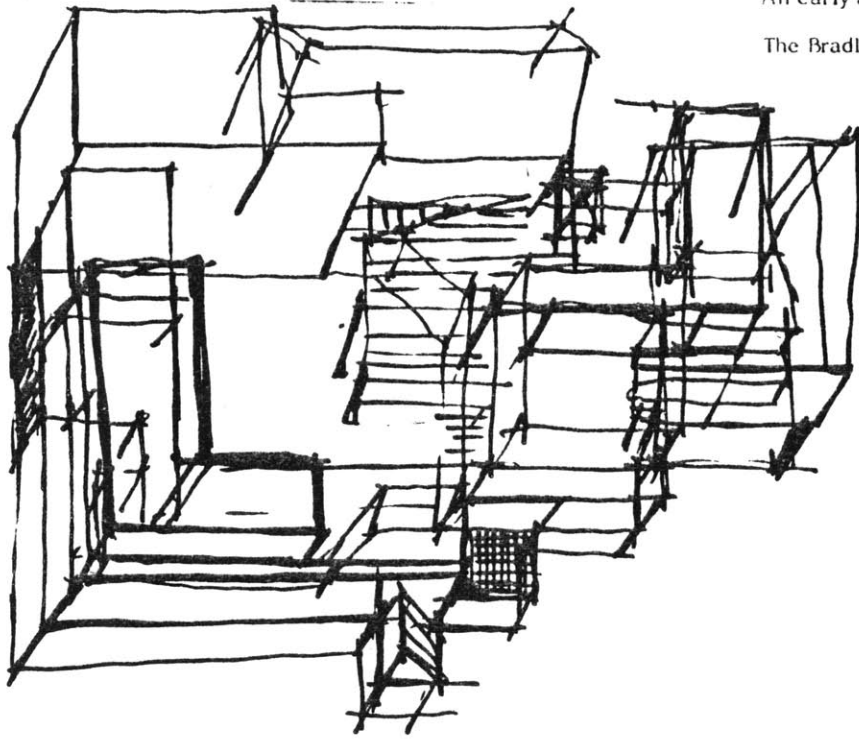
Also, Dr. P.A. Stone states that urban quality depends on the standard of maintenance and improvement of the existing stock rather than on the standards to which new stock is built because the annual addition to the stock is proportionately very small.¹¹ Rehabilitation is a very necessary part of improving the quality of life in a city.



¹¹Stone, P.A., "The Cost of Quality", Official Architecture and Planning, November 1971.

An early axonometric sketch of the New American House Hotel.

The Bradley Building, Central Street, across from the American House.



LAST REMARKS

In conclusion, the method used in this thesis has taught some fruitful lessons. Beginning thoughts about in-depth examination of the old providing a limitation of the palette of design options has proven to be a positive part of the process. Accepting the contextual limits of the neighborhood as well as the limits set within the details of the building itself can offer more freedom in the design than restriction because the limited choices are relevant and complimentary to a part already existing. Like adding the last piece of a jigsaw puzzle, the potential of the sum of the parts is greater than the singular element. The building now relates to a whole set of fundamental elements around it—it is better than the singular statement; it has dealt with larger issues than its individual evolution within its own set of design concerns. The building is part of the world around it.



The sense of a place emerged as an important issue in this design. The ambiance of the old that we seek to capture can often be summarized in this phrase—sense of place. We must search in the old for what exactly this was. A building must be allowed to



emerge from the sum of the forces exerted on it by its environment and its history. The sense of the building is not the sum of its details--it is a quality of the space it surrounds.

A working method that allows a quiet evolution of the initial precedents is necessary. In this thesis, this was done in the three plan options. These three options were posed and evaluated quickly on merits related to the sense of the area, ambiance, and thematic, conceptual, and historic issues. A basic definition of some preliminary intuitive rules was reached. This definition sometimes ended up standing up to an onslaught of informal studies. These preliminary rules allowed sufficient freedom within them for architectural interpretation.

A study of the path potential of the area turned out to be an important aspect of the design development. Linkage with the new developments in the area is as important aspect of the design development. Linkage with the new developments in the area is as important as a linkage with the old. The new Hilton Hotel and Wang Conference Center are reshaping the pedestrian traffic in the area and are interjecting a new activity to the region. The

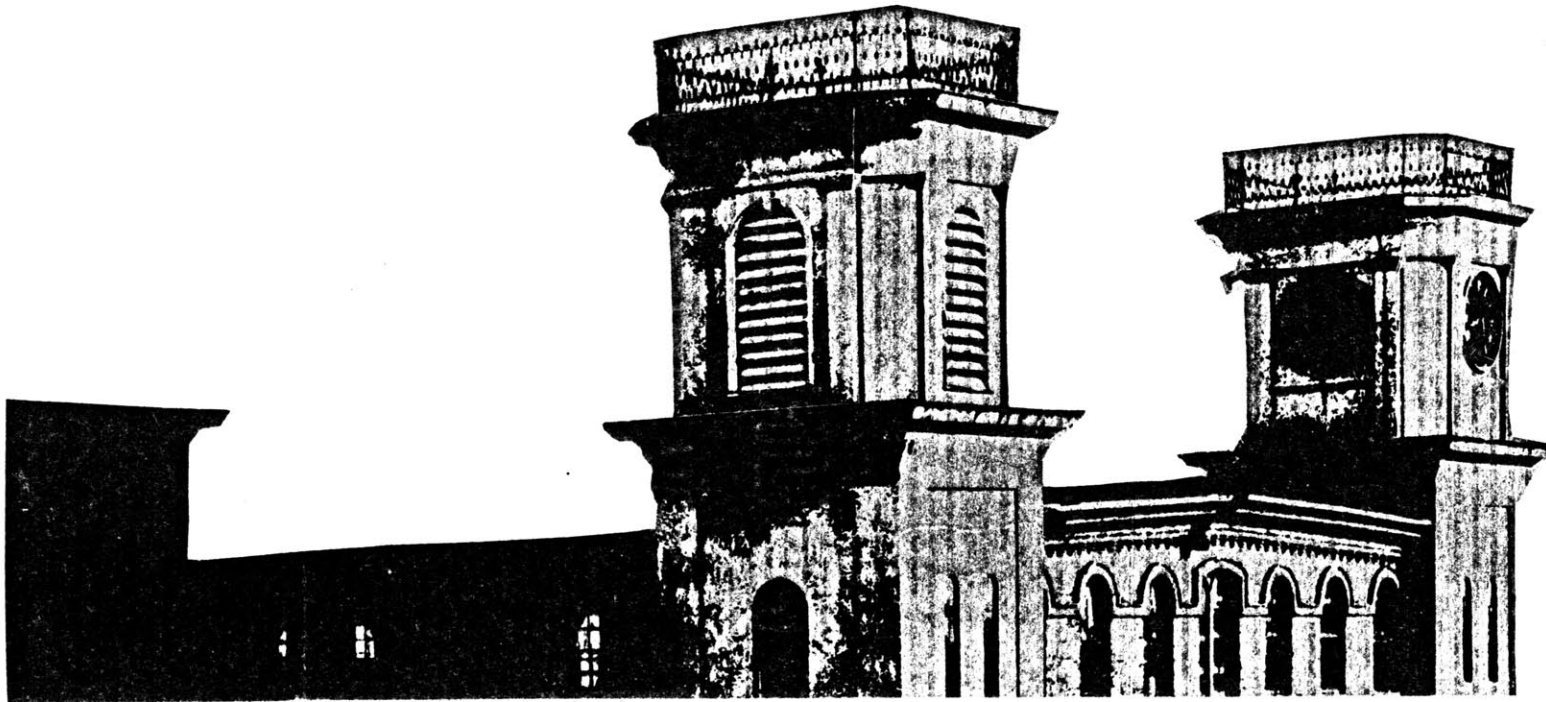
New American House Hotel is in a position of accentuating the transition from old to new; it is a building straddling the fence of old and new. It can unify the past history of Lowell with its modern future; the building is a historical pivot and the design needed to bear this strongly in mind. Good architecture occurs when there can be a gentle reconciliation of opposing forces amalgamated within a design. The New American House Hotel is placed in this potential position.

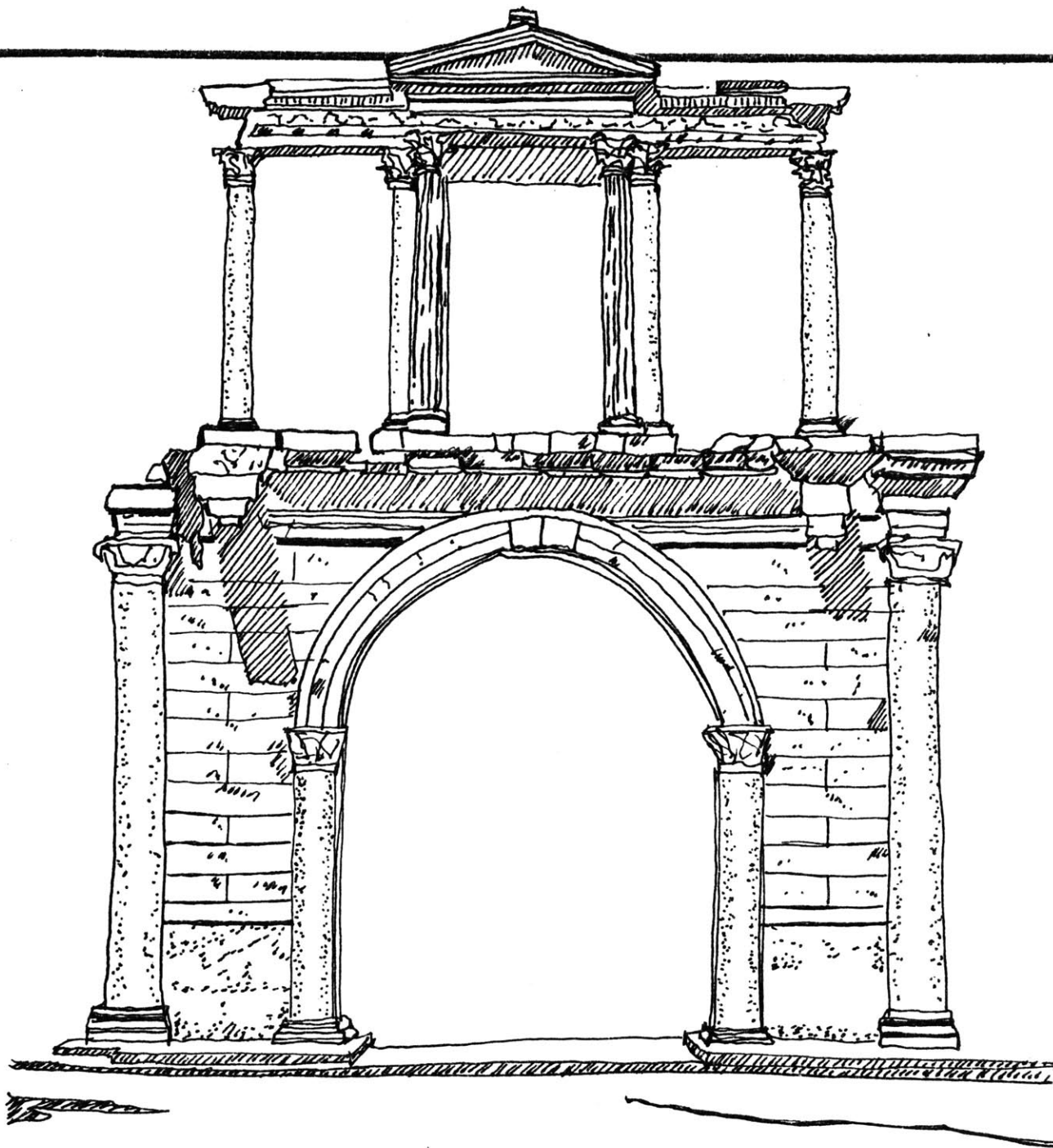
In this thesis, it was found than an architectural language must be one that is easily understood by the users. Simplicity to complexity in a design is an easy step--it is the step from complexity back to simplicity that is the hardest.



In adaptive re-use the user must easily find quality and delight in the connections that can be recognized intuitively. These connections must be clear. As the work progressed, the associative value of the old came to the forefront. The architect should not make this association with the past painfully obvious (as with preservation), but should juxtaposition and contrast subtly-making the user realize or connect himself/herself (a free interpretation).

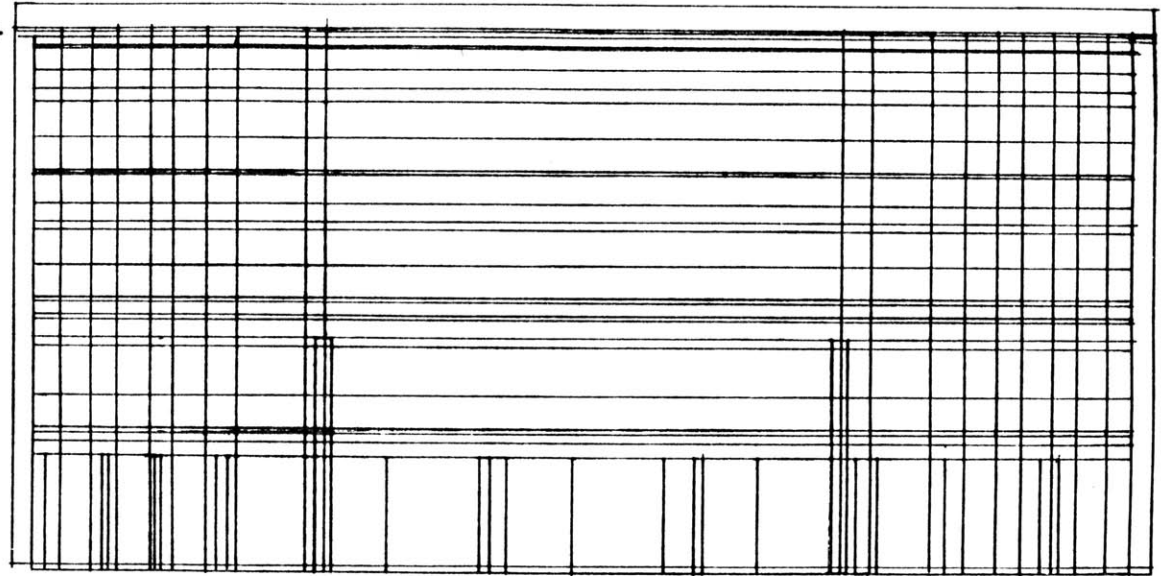
Each user is unique with a whole unique set of references. An overabundance of the architect's own specific judgements about what is valuable from a earlier era is not what we are looking for. There must be a search for that intuitive key--the sense of a place--the ambiance of the old. The delight in sensing that follows. In striving for perfection beauty will never result.



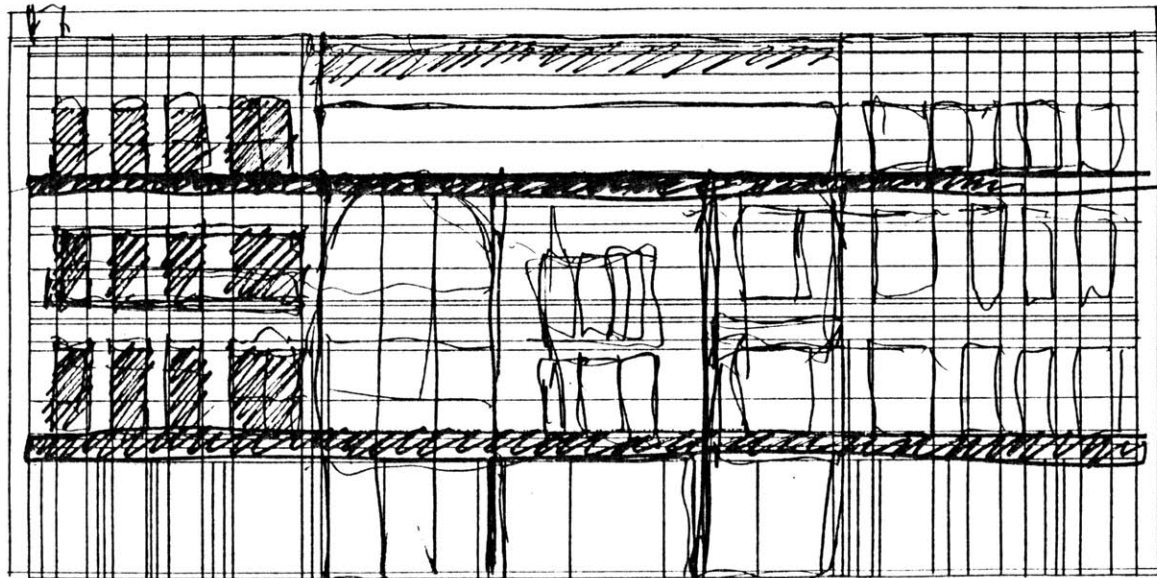


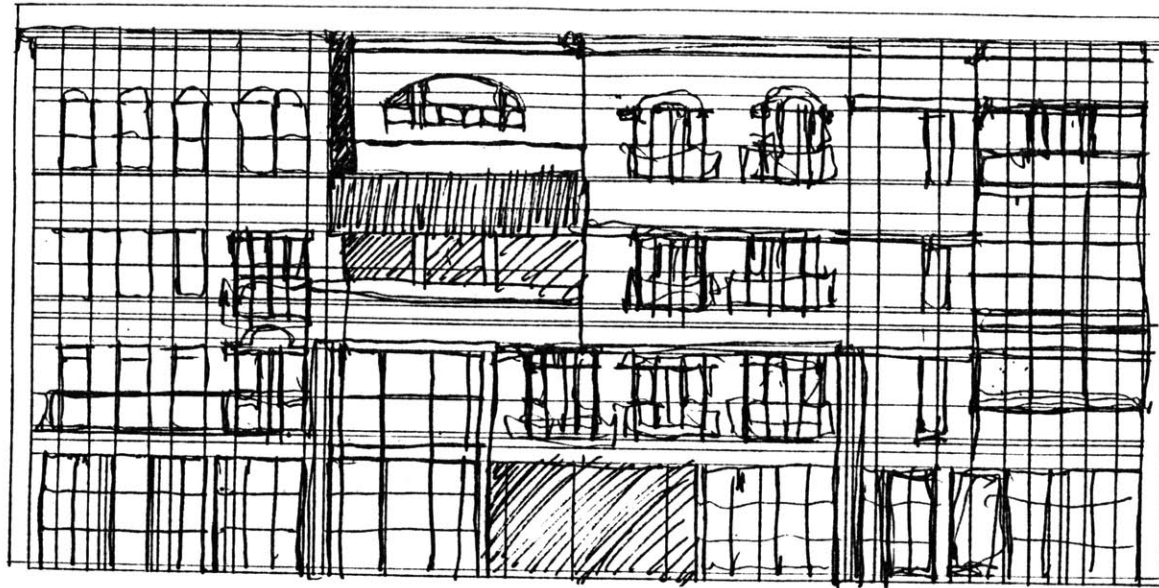
FACADE PROPORTIONS

The base drawing for the elevation studies,
drawn from the proportions of the existing building.

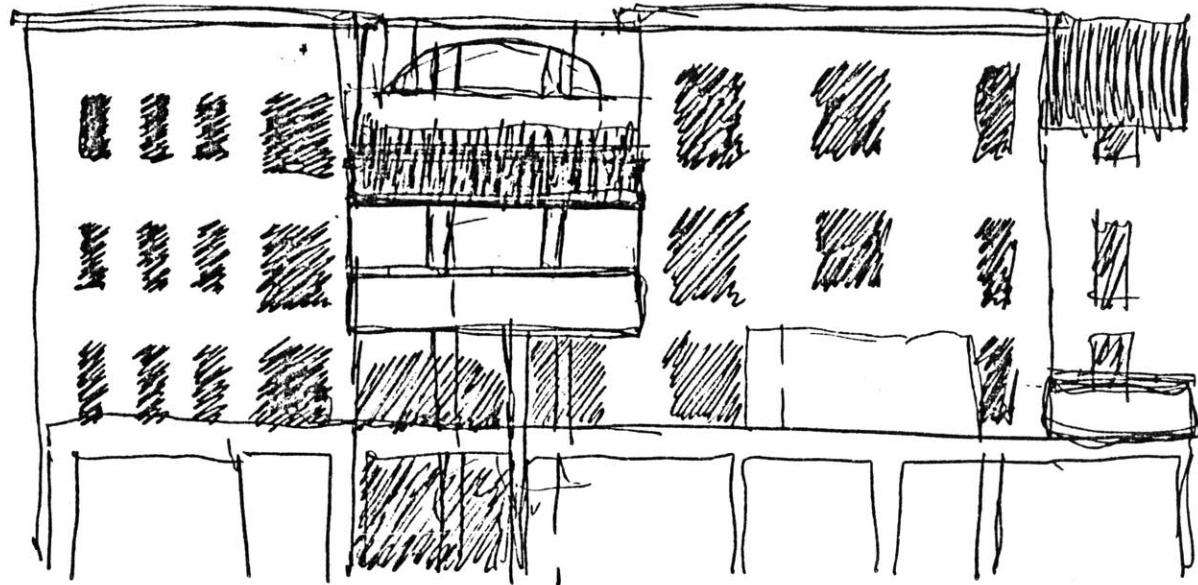


An elevation study, prioritizing the 3 major
horizontal zones that emerge as particularly
important from the existing building.

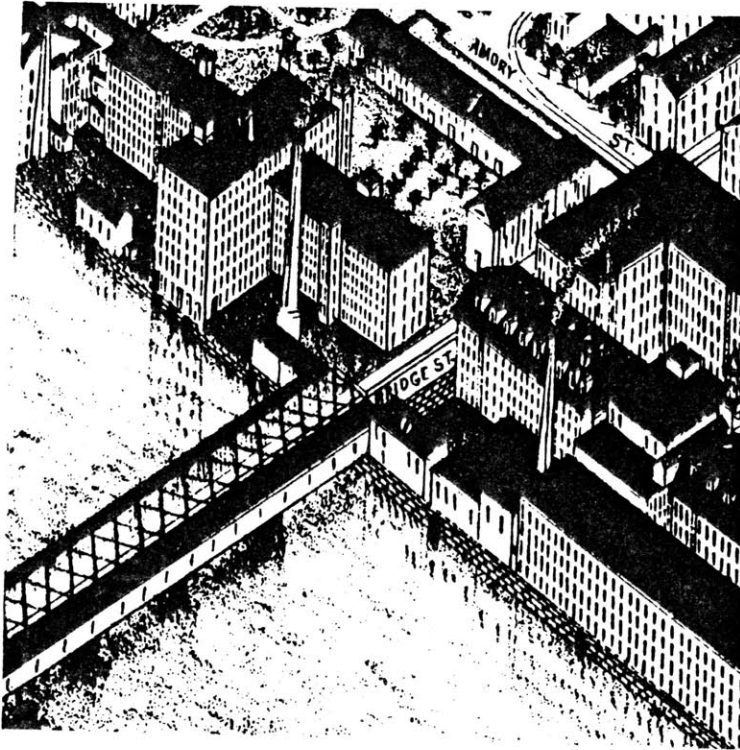




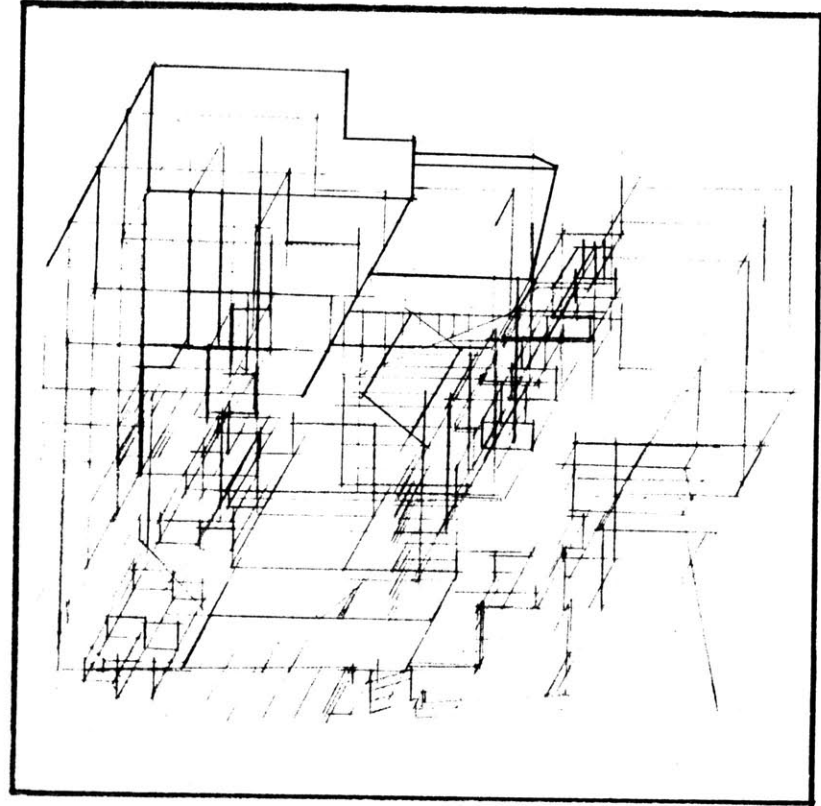
Further elevation studies define massing and proportion priorities.

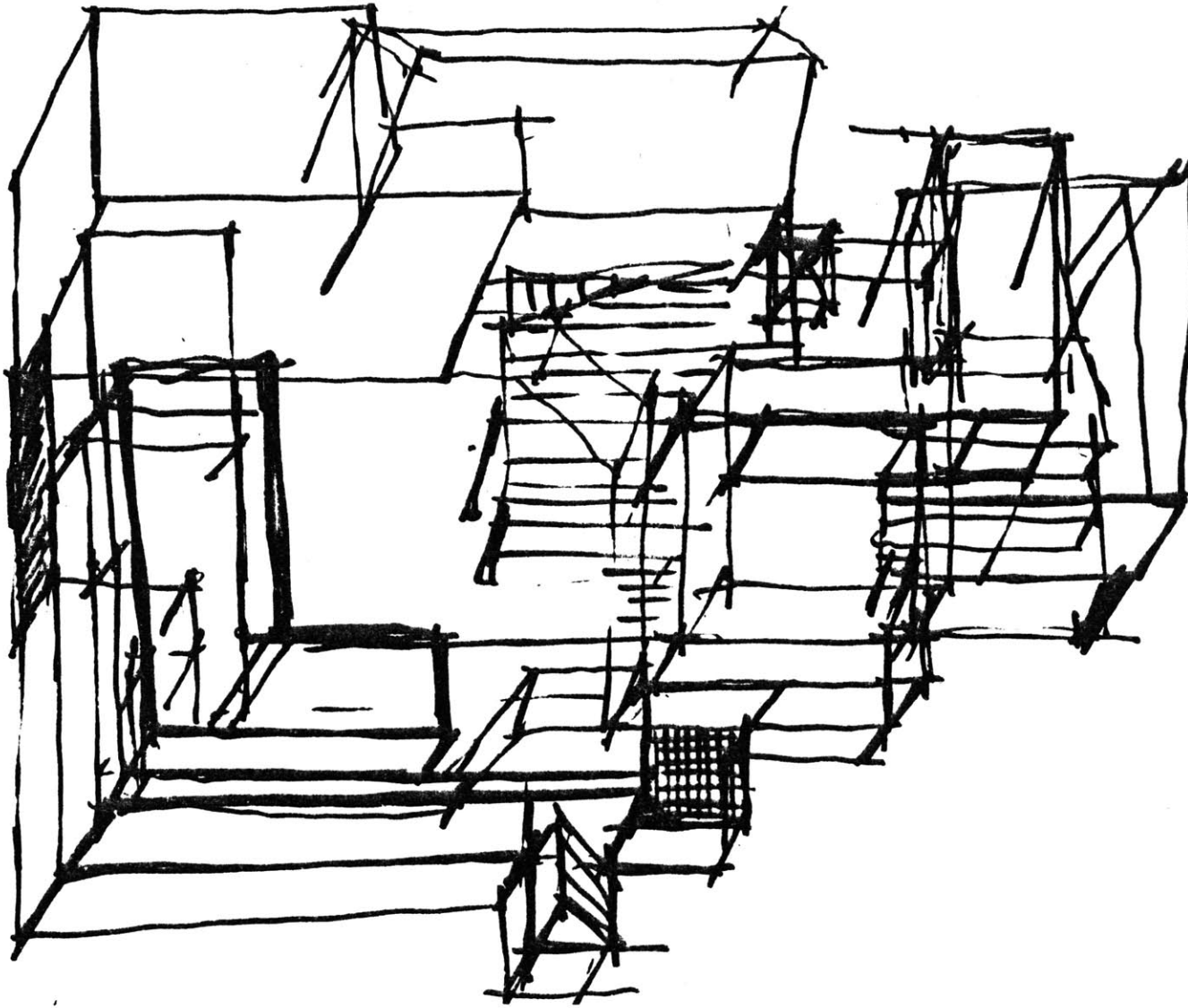


AXONOMETRIC SKETCHES



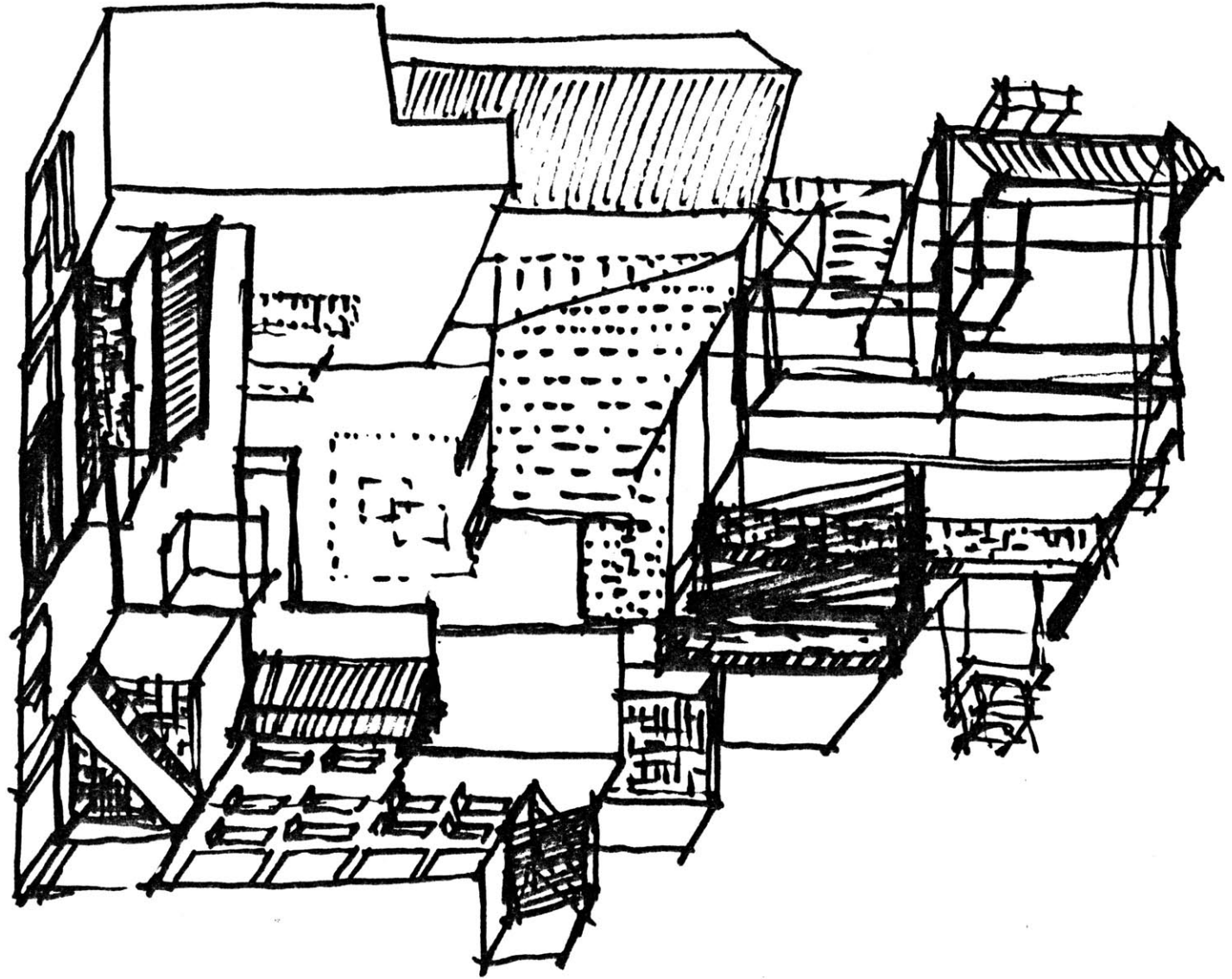
A projected axonometric from plan. Each floor was projected in a different color from the floor plans to form the three dimensional sense of space. The potential for great spaces is tested.



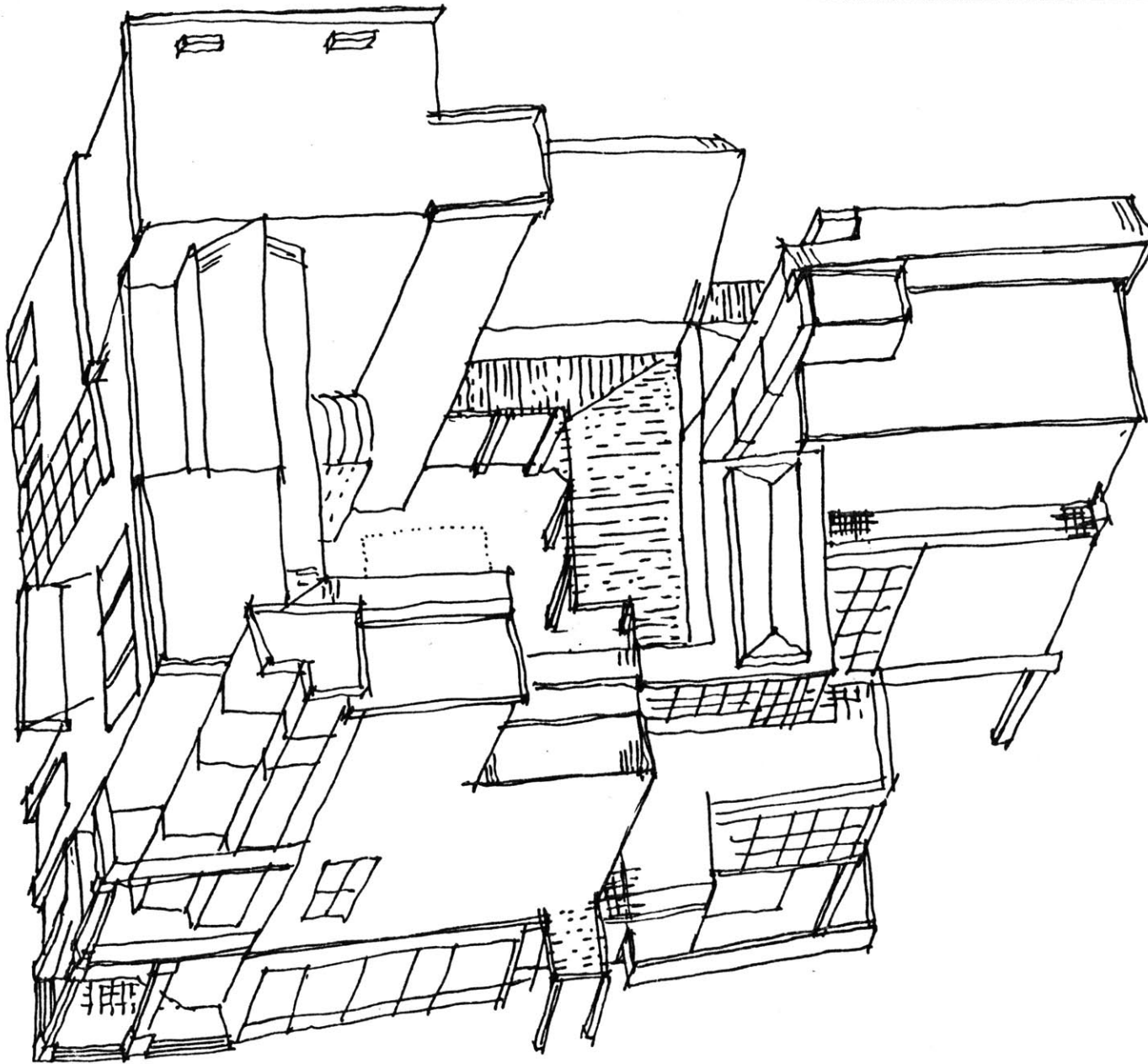


1

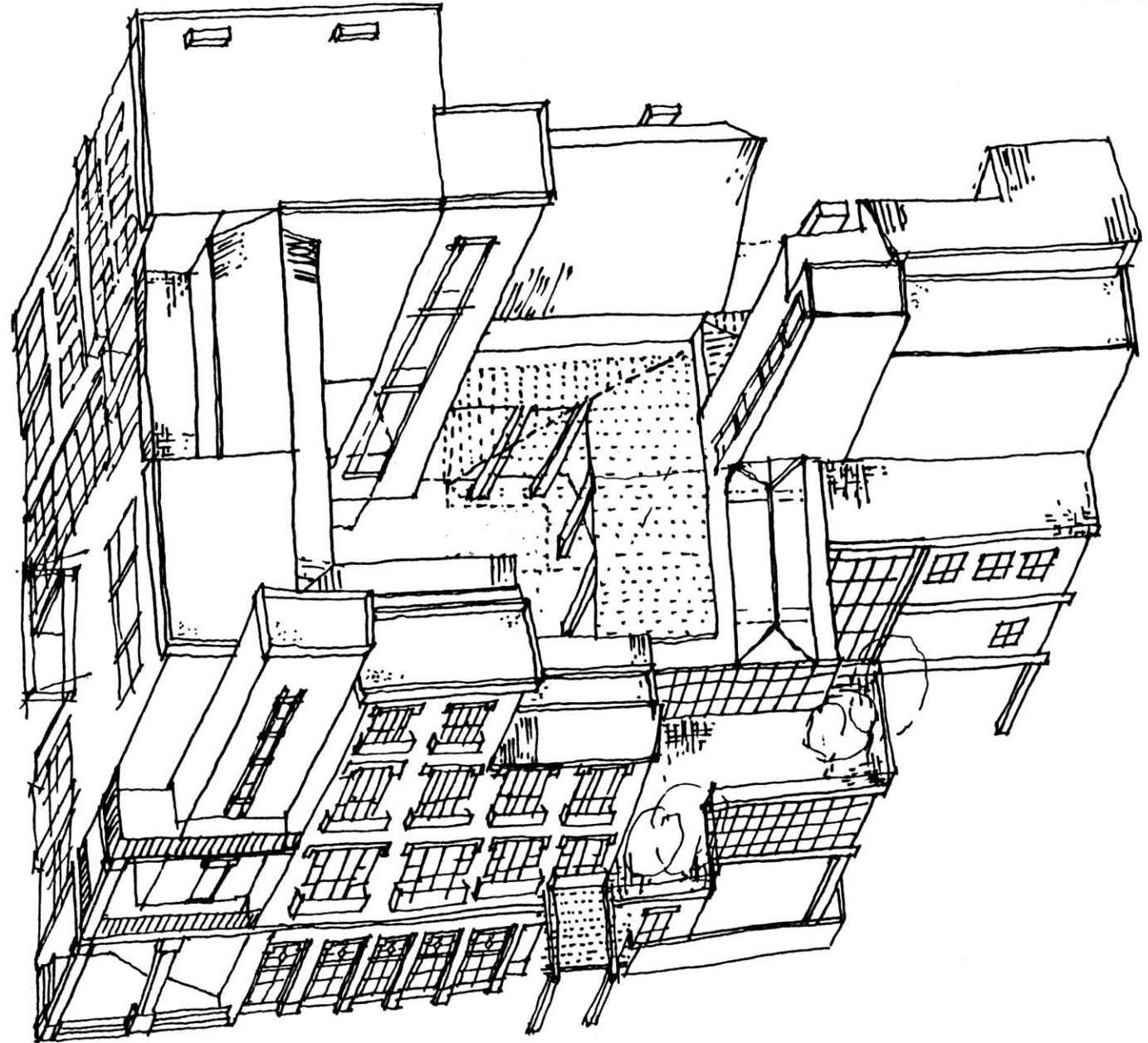
Further axonometric studies evolving enclosure systems.



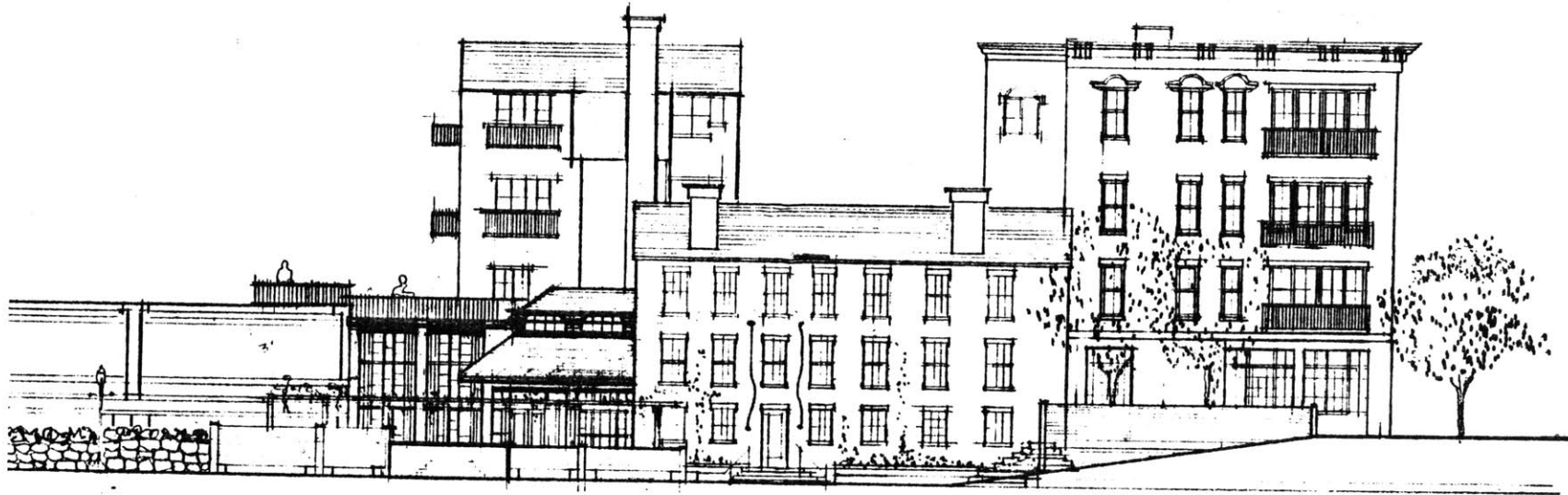
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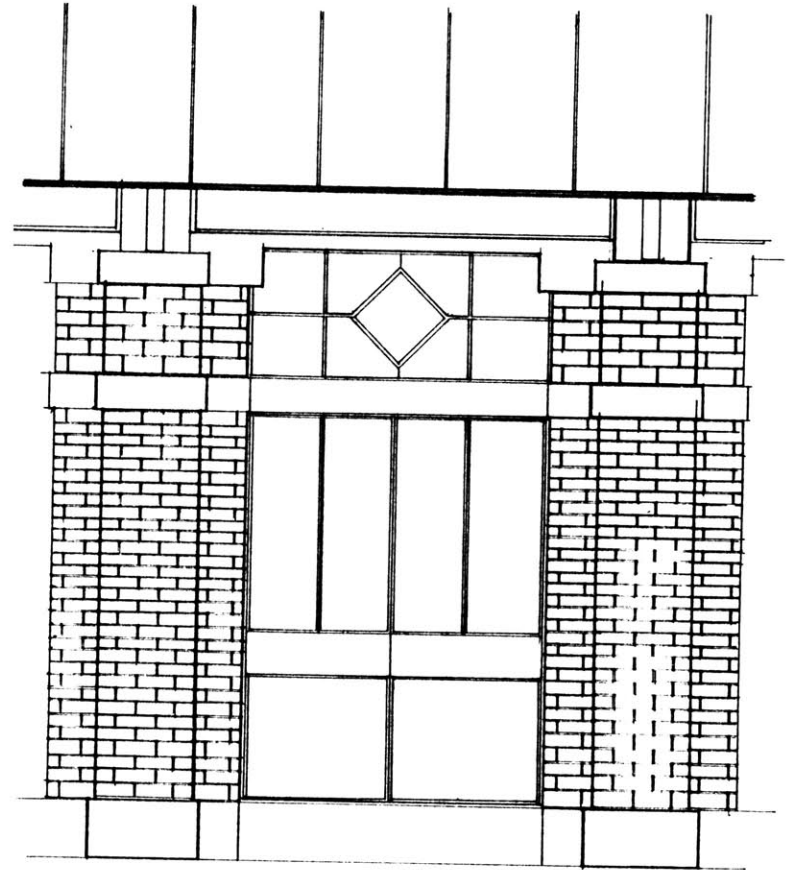


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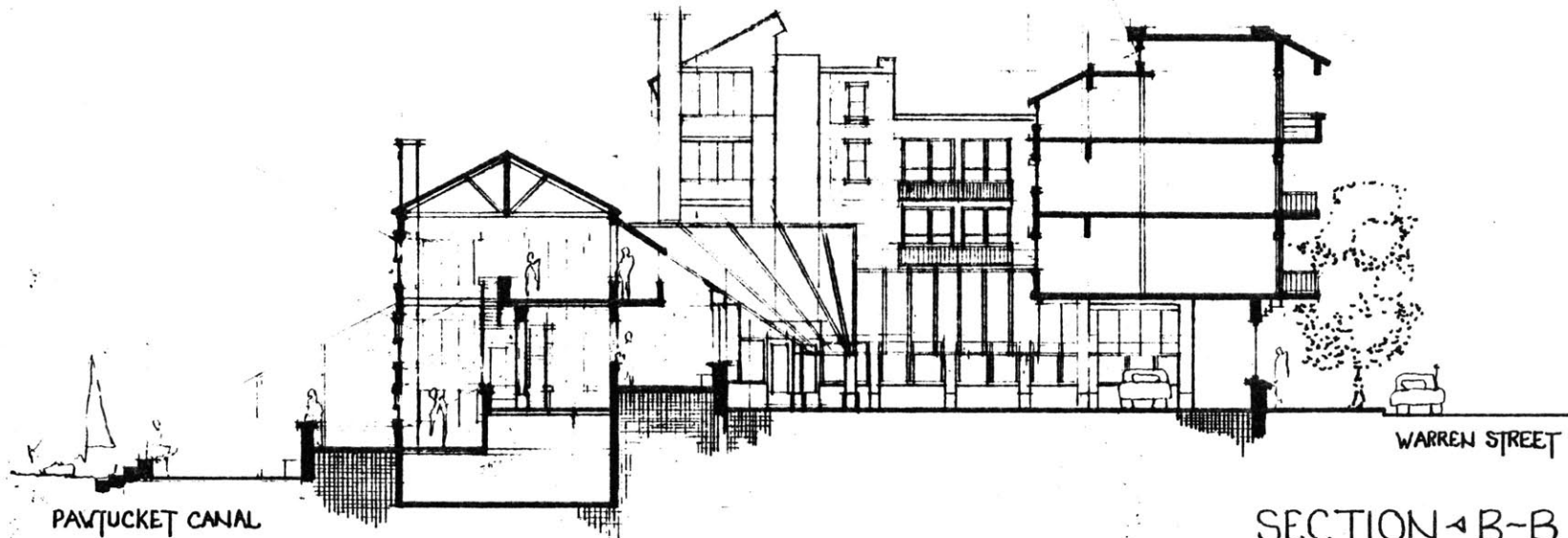


Canal elevation study with proposed design.

FINAL DRAWINGS



Window detail along "yard" edge into public space.

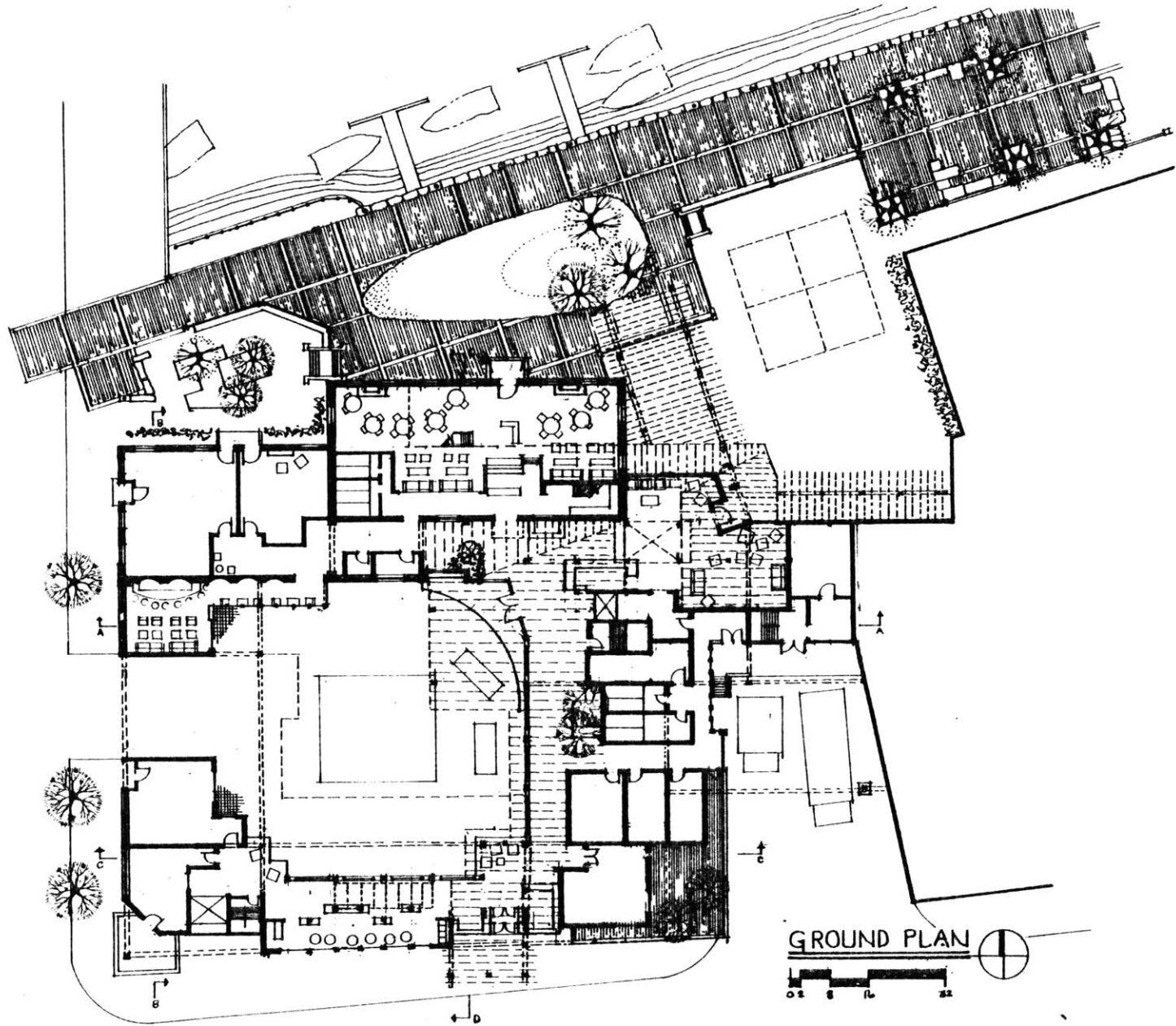


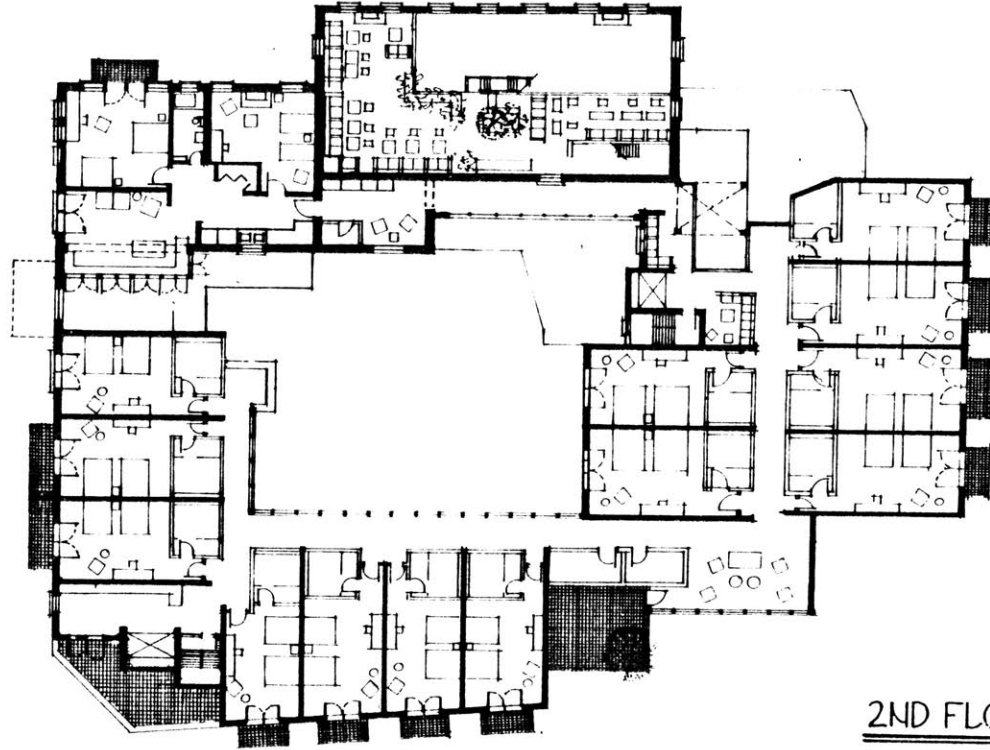
SECTION A-B-B

SCALE:



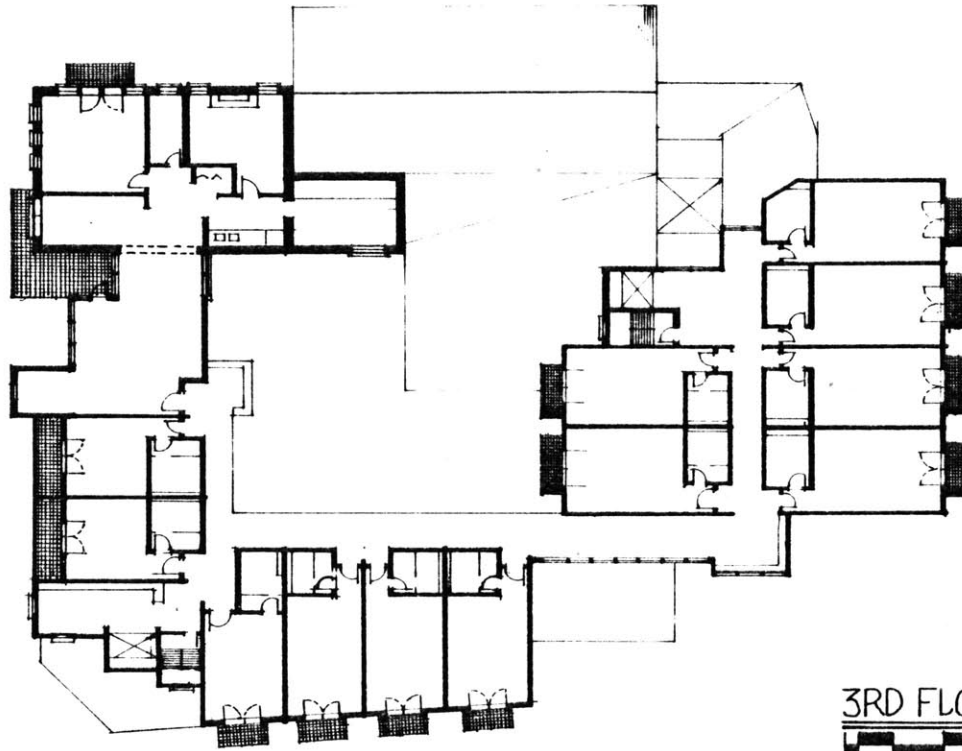
AMERICAN HOUSE HOTEL
WEST ELEVATION





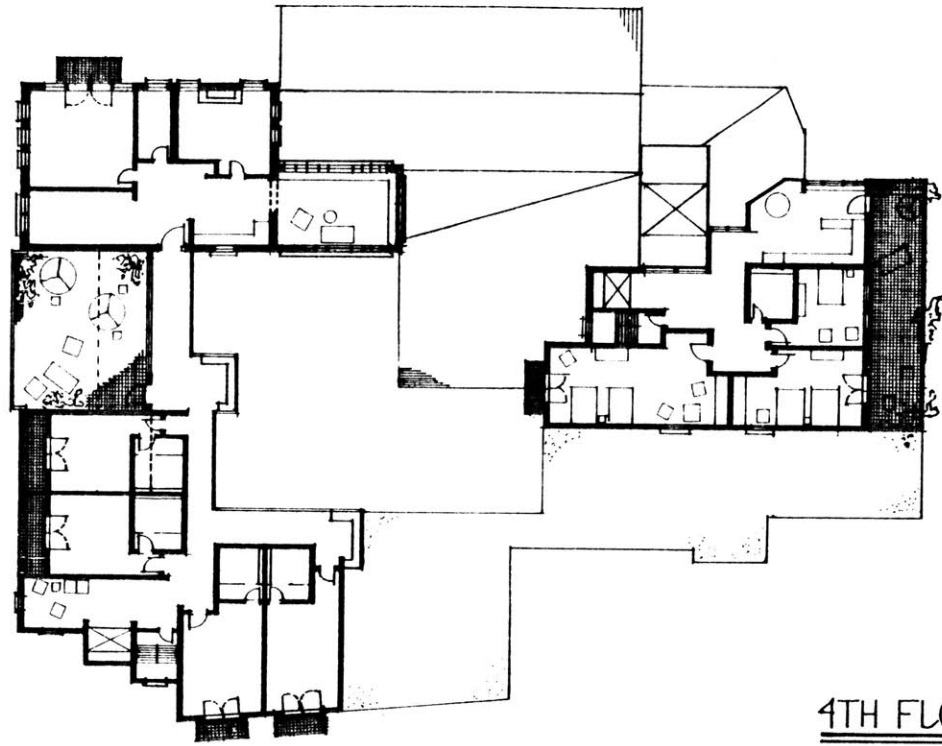
2ND FLOOR PLAN





3RD FLOOR PLAN



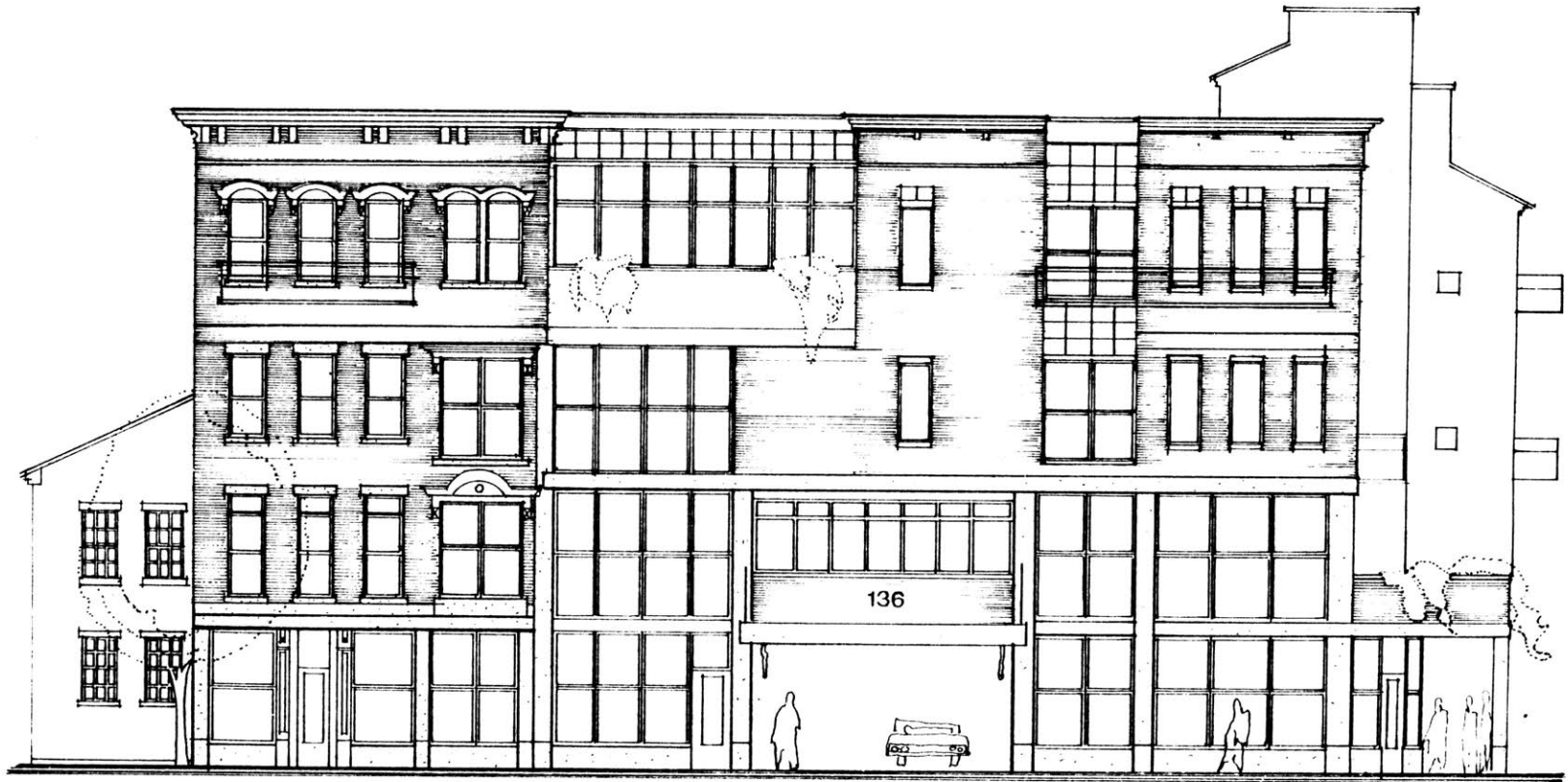


4TH FLOOR PLAN





AMERICAN HOUSE HOTEL
WEST ELEVATION



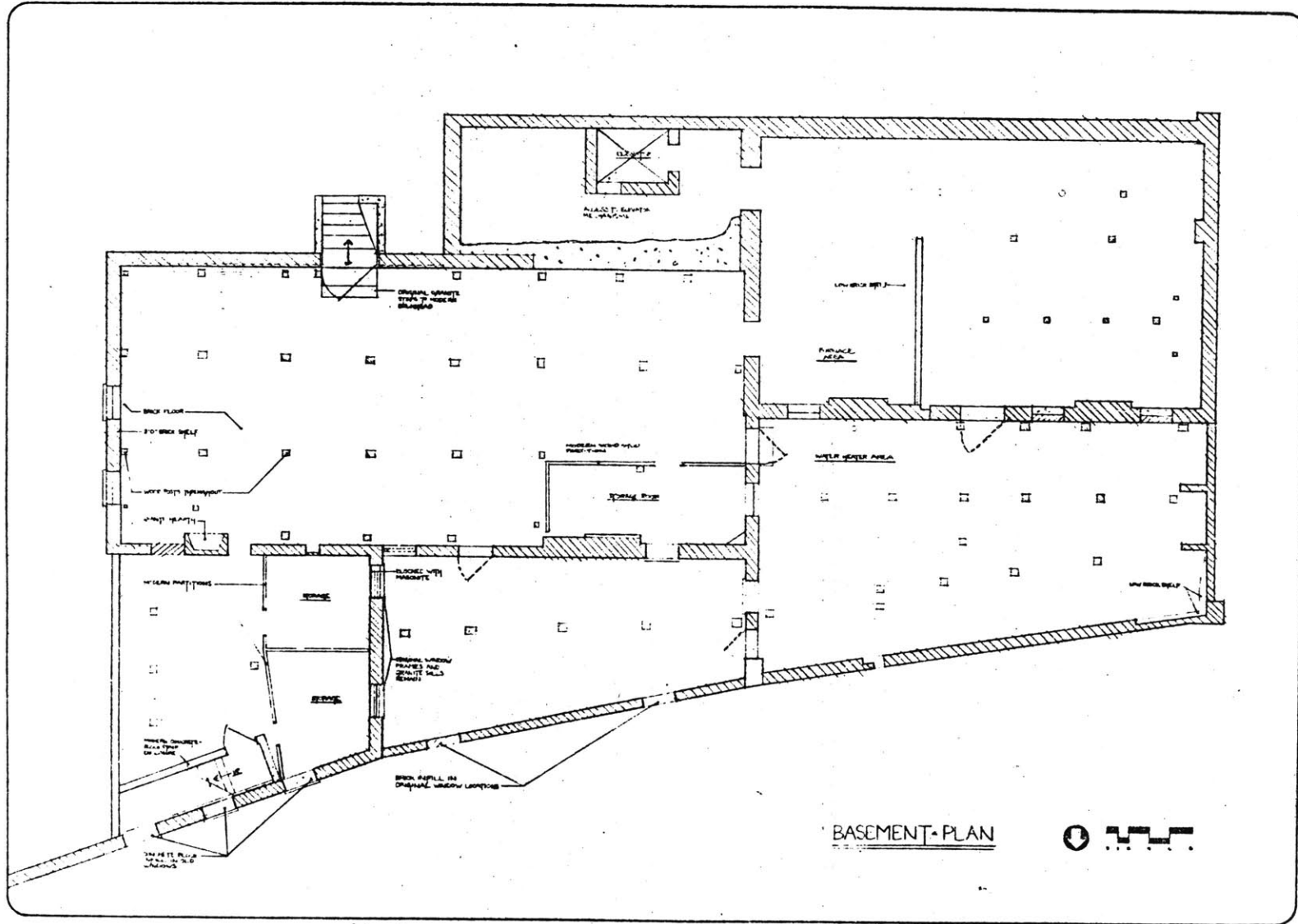
AMERICAN ◊ HOUSE ◊ HOTEL
WEST ELEVATION



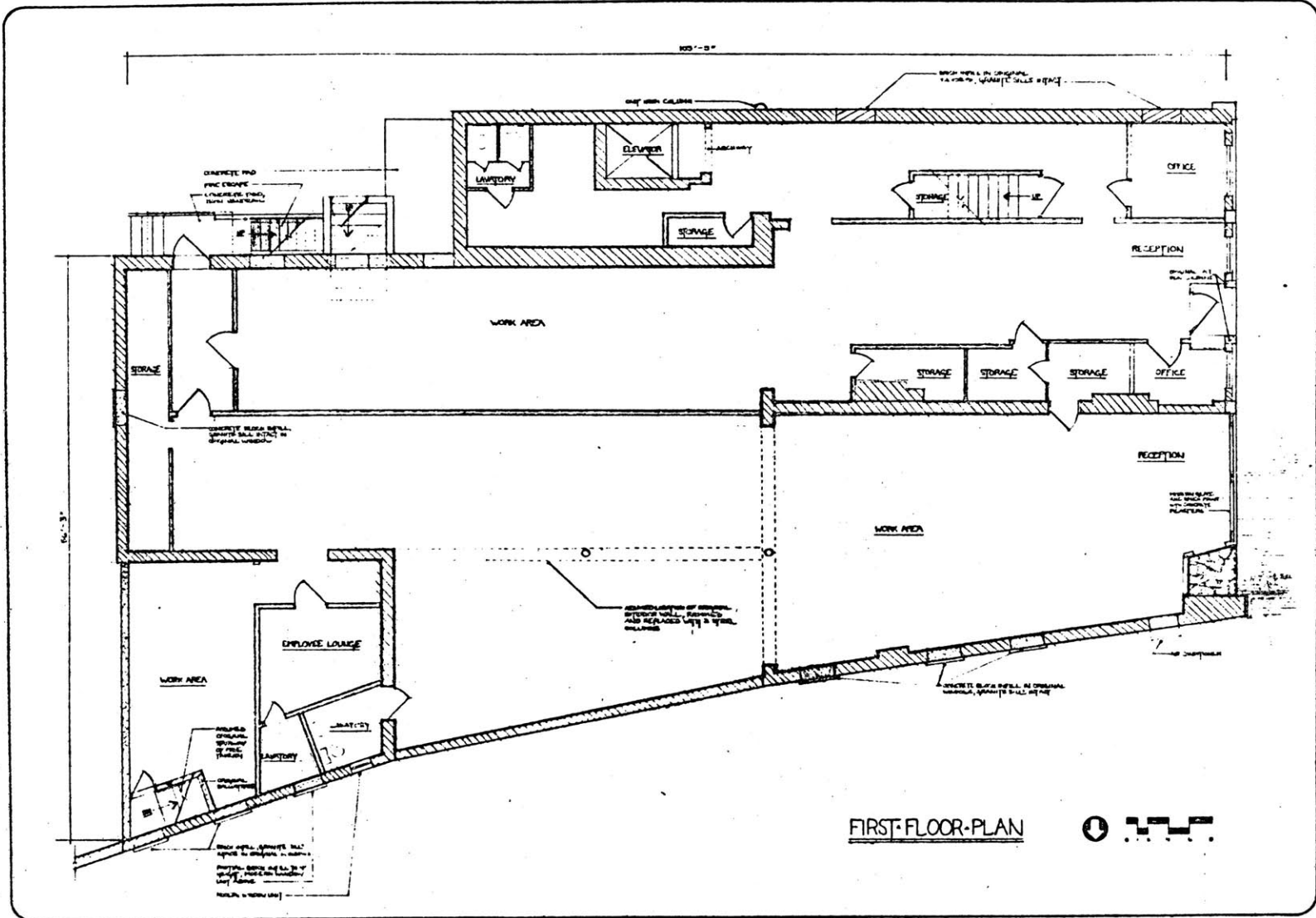
APPENDICES



Existing Plans

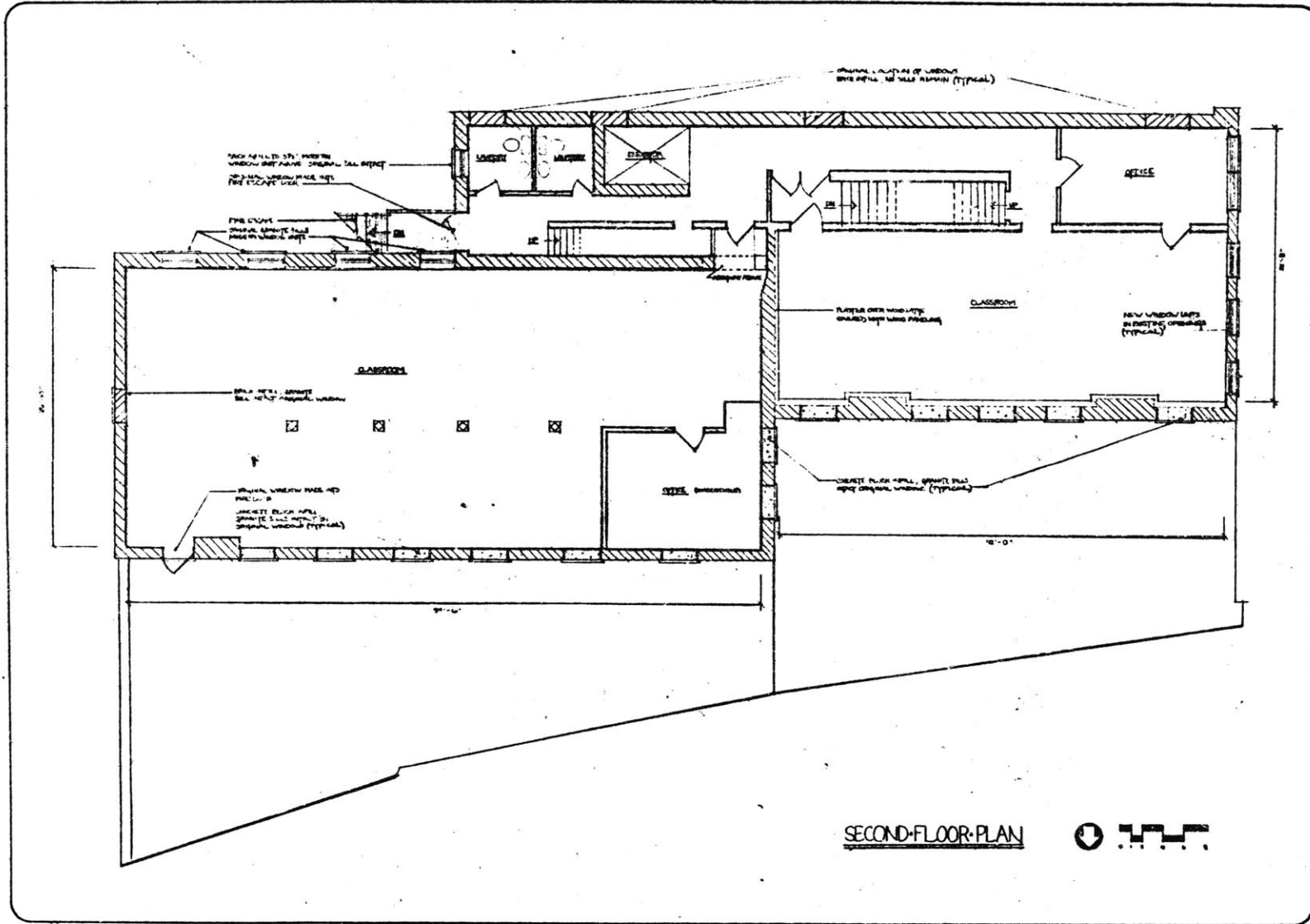


The Lowell Academy School of Hairdressing, the measured drawings of the existing structure as it is now, floor plans, elevation, and section.



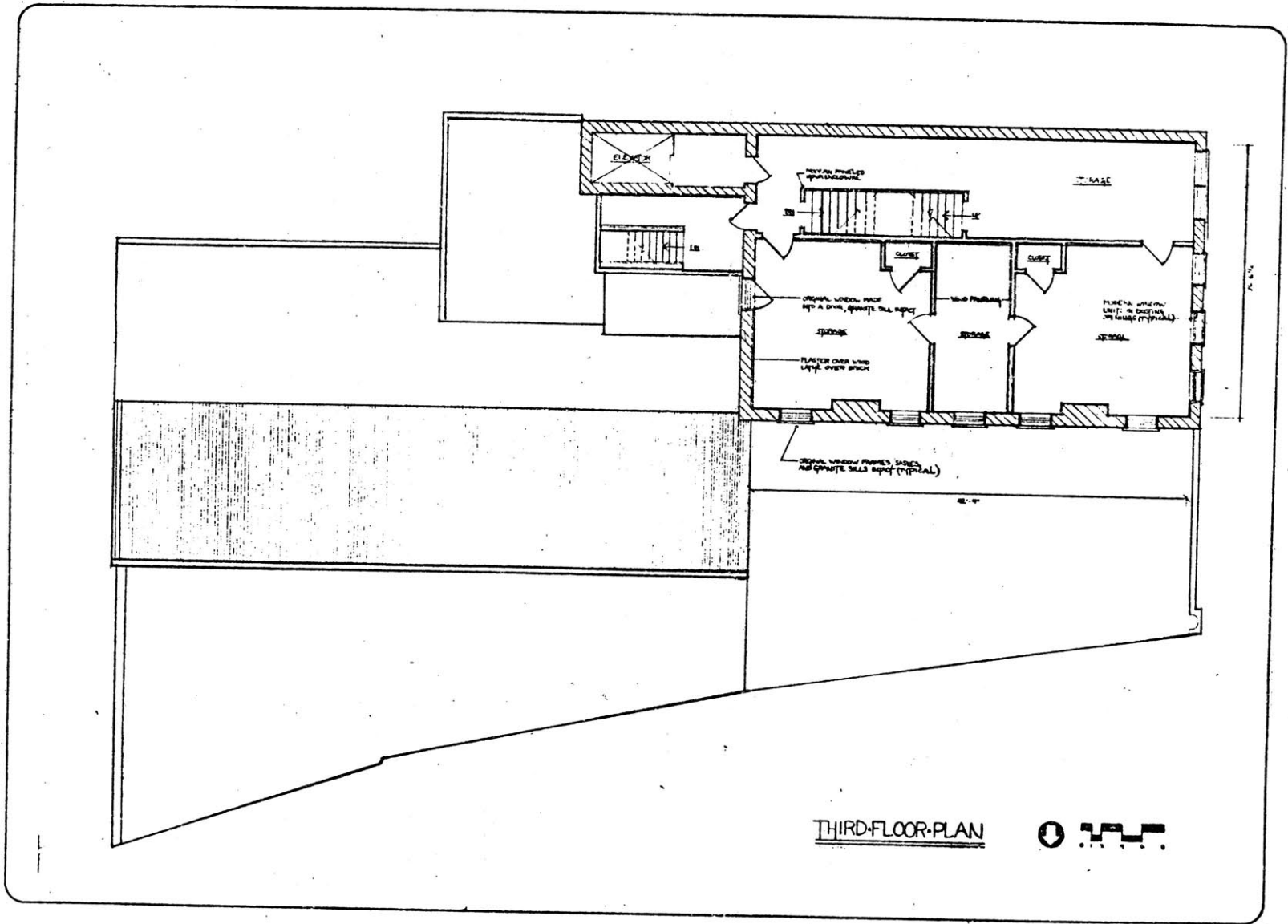
FIRST FLOOR PLAN





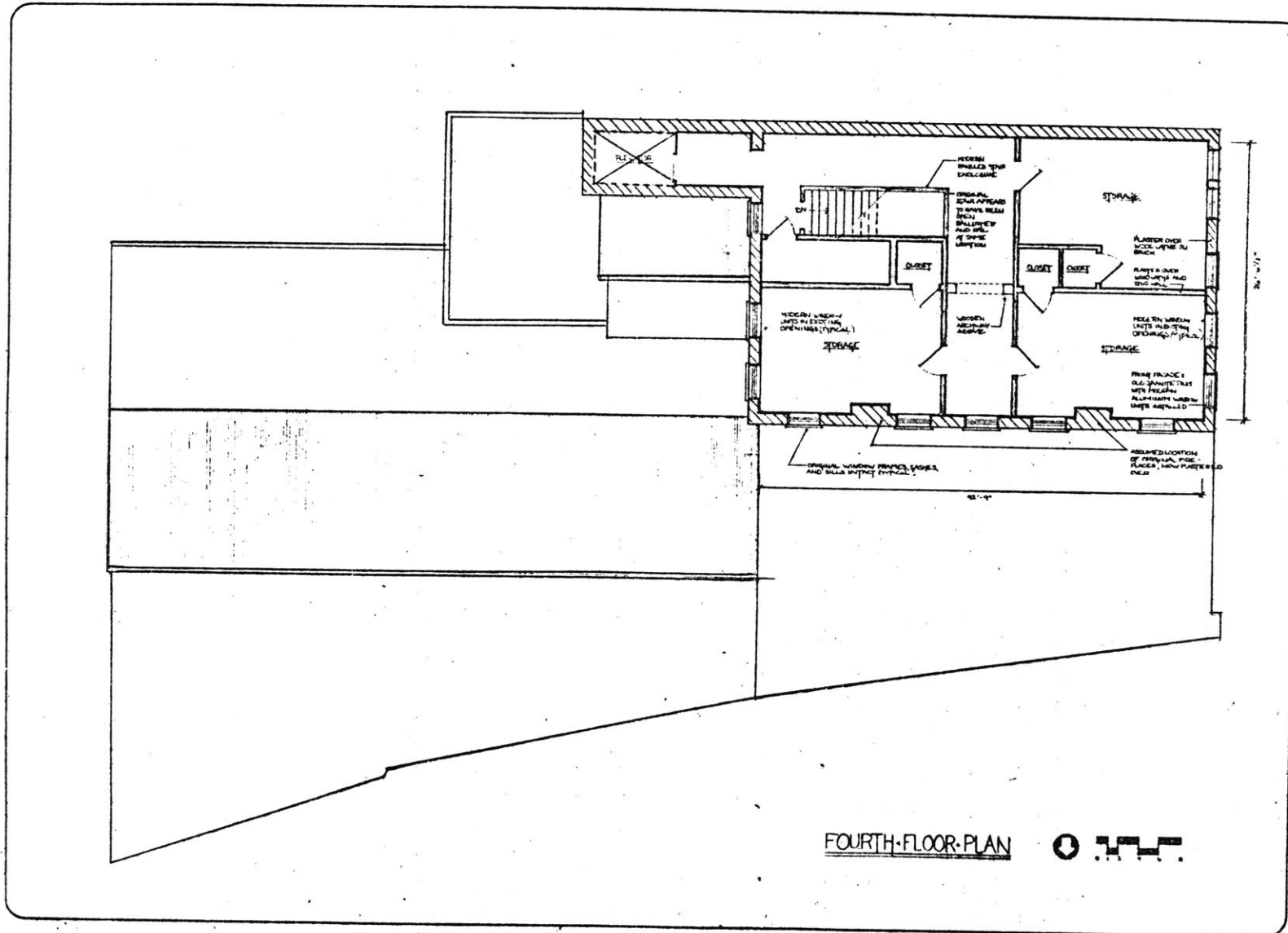
SECOND-FLOOR PLAN





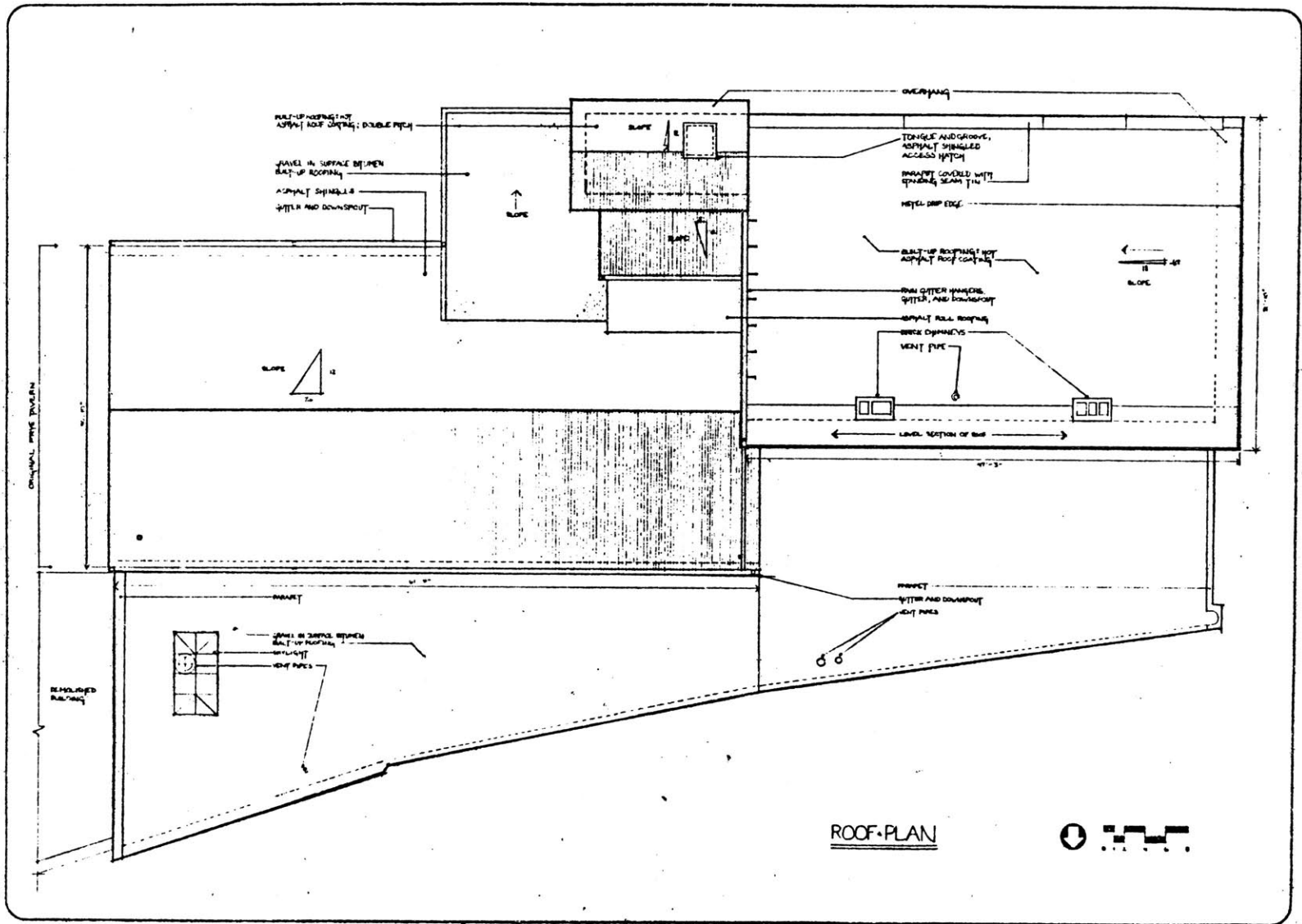
THIRD-FLOOR-PLAN



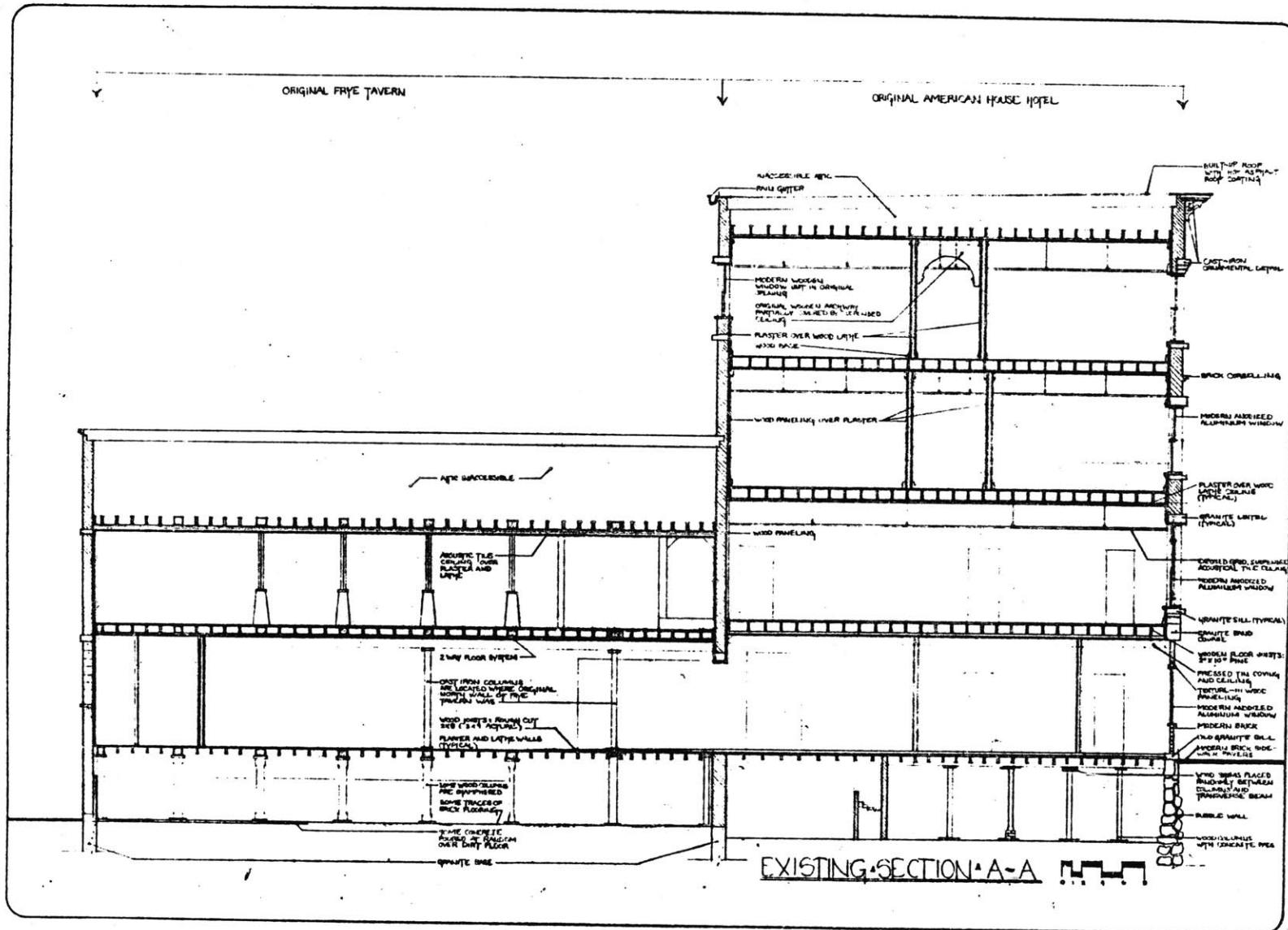


FOURTH FLOOR PLAN

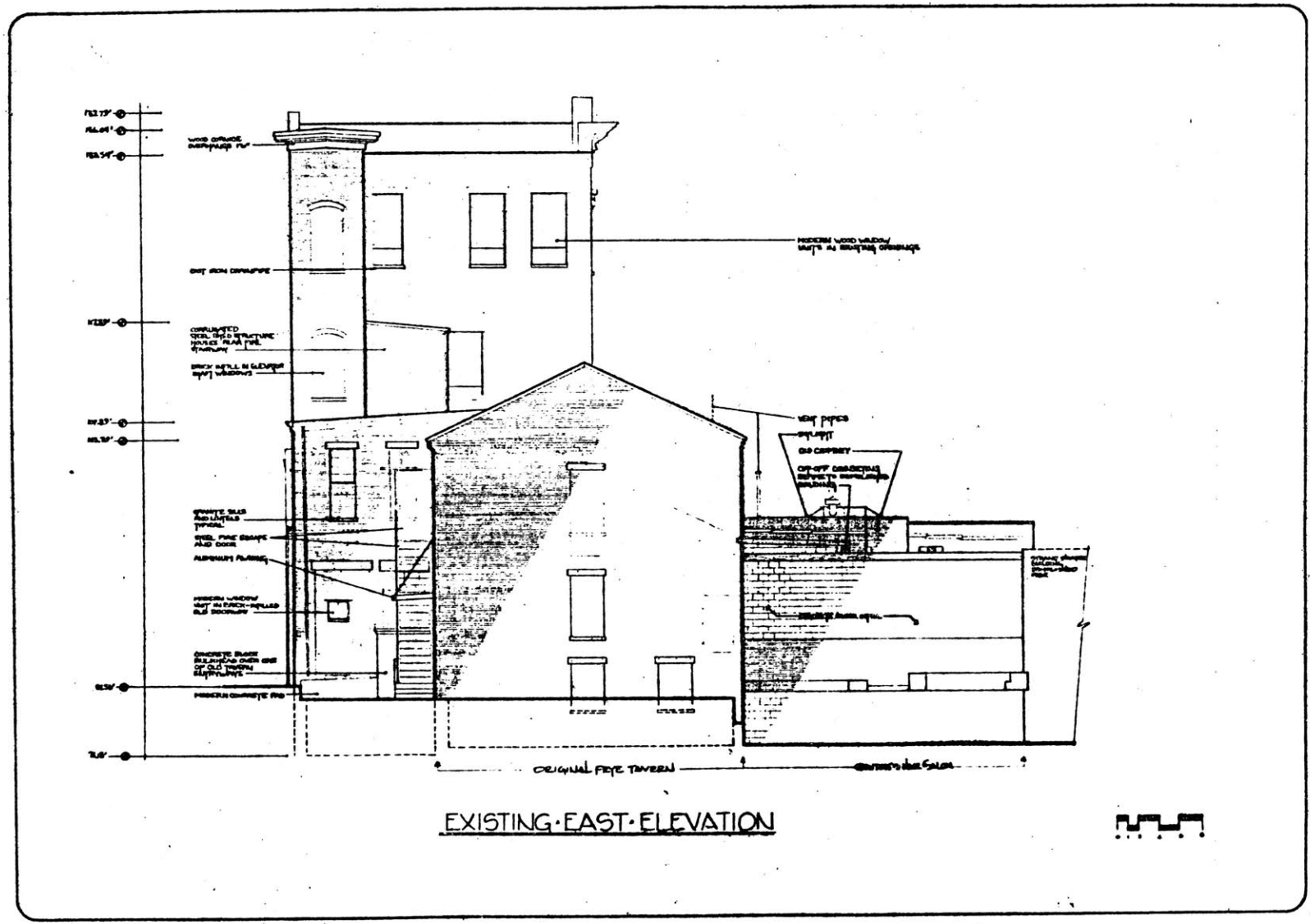


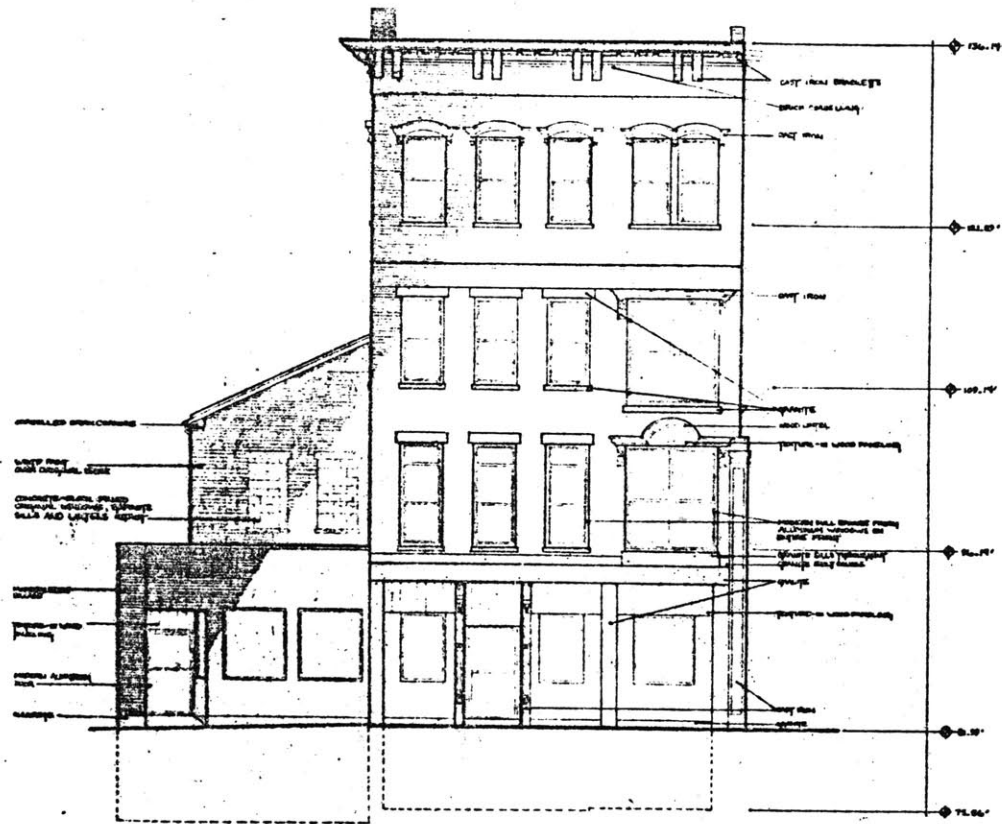


Existing Section



III Existing Elevations





EXISTING WEST ELEVATION



Present Code Limitations

The Rex Lot is a prime development site in downtown Lowell, important both for its historical significance and its high visibility at an entry point to downtown. New construction on this site will benefit from vast amounts of public and private improvements in the adjacent areas. These include restoration of the Lowell Locks complex by the State Department

Environmental Management with the assistance of the National Park Service (1 million); creation of pedestrian walkways the viewing areas along the Lower Pawtucket Canal by the Lowell Historic Preservation Commission and Northern Middlesex Area Commission (\$1 million); rehabilitation of the Memorial Auditorium by the City with over \$4 million of State assistance; and the proposed Hilton Hotel.

It is crucial that any development occurring on the Rex Lot site be considered as an important part of a larger whole. To this end, involved ups (including _____, _____, _____) have jointly compiled these guidelines which are simplified listing of the design considerations that need to be met by construction on the Rex Lot. References are to the booklet, "Details the Preservation Plan" by the Lowell Historic Preservation Commission. These guidelines were endorsed by the City Council in the Spring of 1982 and will become an enforceable ordinance following final approval by the Commonwealth.

The above-mentioned groups who have complied these guidelines stand by and willing to become an integral and helpful part of your design team.

Building Height: Reference Section N-5, p. 84

- o New construction on the Rex Lot should be no lower than two stories and no taller than five stories.

Building Massing: Reference Section N-5, p. 84

- o New construction on the Rex Lot should relate to buildings on adjacent sites in terms of vistas, volumes and open areas.

Site Coverage: Reference Section N-6, p. 85

- o New construction on the Rex Lot should not cover the site so completely as to restrict pedestrian or vehicular movement around the site. It is recommended that certain "open" areas be maintained.

Set-Back Requirements: Reference Section N-6, p. 85

- o New construction on the Rex Lot should be set back at least 20' from the water edge and should relate also to the street edge, allowing at the same time for a "ceremonial" entrance.

Building Orientation

- o New construction on the Rex Lot must be oriented both to the hotel and to Merrimack Street, with presentable faces on the other two or three sides.

Assess

- o Pedestrian access should be from all sides, with major pedestrian access must be limited to one point, preferably on the west.

Exterior Colors and Materials: Reference Section N-1, p. 80

- o New construction on the Rex Lot should relate to the existing vocabulary of brick and granite that is found in the area.

Building Service: Reference Section N-8, P. 87

- o Servicing of any new construction on the Rex Lot should be minimized. Service areas must be shielded from pedestrian and vehicular views as well as from views from the hotel.

Landscaping: Reference Section P-2, p. 90

- ~~o Keeping in mind that~~ ^{SINCE} the Rex Lot site is part of the "urban landscape," extensive planting should be avoided ^{ADJACENT to WATER EDGE} ~~except at appropriate open areas near the water edge.~~

Signage

- o Signage of new construction on the Rex Lot should be limited to two areas, one facing Merrimack Street and one facing the hotel. Signage should consist of company logo and building identification, back-lit and applied to the building facade, not to protrude over the parapet.

Lighting: Reference Section P-3, p. 91

Exterior lighting must be coordinated with other exterior fixtures in adjacent areas, and may be identical or complimentary to those fixtures.

Excerpts from The Master Plan

Approach

PROGRAM ELEMENTS

In its charge to the Lowell Historic Canal District Commission, Congress identified four broad planning areas:

- o Preservation
- o Interpretation
- o Development and Use
- o Management

Early in Phase 2, individual program elements relating to each of the four areas above were identified and analyzed. A "program element" is defined as a set of issues relating to the park that can be conceptualized and dealt with independent of other sets of issues. Spatial Configuration
The following program elements were identified:

- o Preservation
 - Worthy historic features in Lowell
 - Mechanisms for preservations
- o Interpretation
 - Educative City
 - Thematic Program
- o Development/Use
 - Entry
 - Primary Node
 - Secondary Node
 - Site
 - Barge Travel
 - Pedestrian Movement and areas
 - Recreation
 - Potential (retail, housing, etc.)

- o Management
 - Environmental Management
 - Project implementation
 - Coordination

Each program element was analyzed to understand, first, the nature of its component issues and, second, the "needs and constraints" which should be considered in attempting to resolve that set of issues. Next, for each program element, various "concepts" or approaches to resolving the pertinent issues were posed. Lastly, several "options" or possible ways of resolving the set of issues in question were detailed. An attempt was made to generate at least one option for each conceptual approach. A large number of individual options resulted from this process, each of which responded to the issues raised by a particular program element.

Master plan alternatives were constructed by combining various options for each element under preservation, interpretation, development and use according to six generic concepts. Management was dealt with separately and alternative scenarios were generated by combining various options for each management element.

CONCEPTUAL ALTERNATIVES

Six alternative master plans are presented in this report. They embody six generic concepts which were generated by asking two basic questions: Where spacially in the city should resources and efforts be expended to create an Urban Cultural Park and what should the scale of those efforts be?

With respect to the spacial configuration of the park, two options were explored:

- o Concentrating resources and efforts in the downtown area. This approach places maximum effort in the most visible area of the city. It complements the State Heritage Park which is primarily involved with non-downtown sites, canal banks and riverbanks, and recreational development. Although most of Lowell's most historic sites are in the downtown area, this approach strictly applied would exclude several significant outlying places (not incorporated in the State Heritage park). Because most components of the park would be within walking distance of one another and easily interrelated, a concentrated approach has the potential to attract

and handle large numbers of visitors.

- o Dispersing resources and efforts throughout the city. This approach attempts to interpret significant happenings in Lowell's history at the sites where they actually occurred. Because many of these places are widely scattered, this approach requires greater emphasis on developing linkages such as barge or train connections. Although a dispersed approach would make it difficult for many visitors to experience the total park, it has the potential to involve more local neighborhoods with park activities and facilities than does a concentrated approach.

Concentrated and dispersed approaches to the Urban Cultural Park were each explored at small, medium, and large scales resulting in six master plan alternatives. In this case, "scale" refers to several relative attributes: degree of federal investment, degree of change in the city from the present situation, and the amount of park related activity. Each scale represents not an end state but an entry level for federal, state, and local involvement.

- o A small scale venture would result in a park closely identified with efforts currently underway in the city. These include the State Heritage Park, Lowell Museum, and others. The basic aim would be to enhance and expand those efforts enough to create a unified program. Limited preservation resources would be directed at only the most historically significant pieces of Lowell's environment.
- o A medium scale endeavor would produce a park in which current efforts were integrated with several important new components. Sufficient resources would be available to effectively improve the environment of a few places in the city, and to develop new activities uniquely identified with the urban cultural park.
- o A large scale endeavor would result in a park which made some substantial changes in aspects of Lowell's environment and which developed a few major or many small new centers of activity. Efforts currently underway in the city would be treated as one or more parts of a substantially larger program. A major, active preservation effort would be aimed at recreating historical settings as well as preserving individual structures. A large scale park could potentially have a considerable impact on the local economy and encourage substantial additional private development.

Preservation

BASIC ASSUMPTIONS

Development of an overall program for preserving Lowell's physical heritage has been broken down into two readily identifiable program elements. 1) Worthy historic features i.e. What should be preserved and 2) Mechanisms for preservation, i.e. How should one go about protecting and enhancing those worthy historic features once they are identified? Two basic assumptions are made concerning these two elements of any preservation program:

1. Three general thematic categories related to Lowell's heritage have been established dealing with 1) technological 2) social 3) economic stories. The preservation plan should first concentrate on preserving and enhancing the physical settings where nationally significant stories related to these themes can be told.
2. The city is actively involved in a variety of preservation activities. These include the development of neighborhood preservation plans, the establishment of a local preservation plan aimed at protecting individual structures, and the seeking of National Historic register status for specific structures and areas in the city. It is upon this activity that the Lowell Historic Canal District Commission's preservation plan should be based.

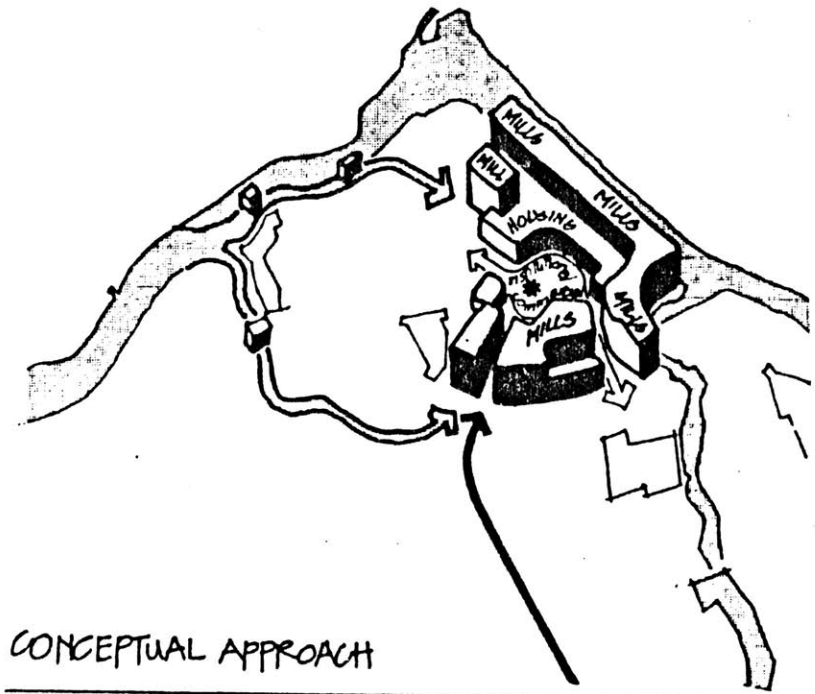
WORTHY HISTORIC FEATURES

Concept

Ultimately, Lowell's significance as a historic national resource is bound to its creation, its development and its eventual decline as a total industrial manufacturing system born early in the Industrial Revolution in this country. The preservation plan should focus on indiscrete areas of the city occupied by:

1. the corporate/industrial system, i.e. the dams, locks, canals, gatehouses, turbines, tailraces, the former industrial spine comprised of mills, corporation housing and ancillary institutions established and supported by the founding corporations.
2. the key physical determinates and characteristics of pre-industrial Lowell which led to the choosing of this particular spot in the world by developers as a site for this unique undertaking.
3. important physical and social consequences, particularly in regard to the development of the downtown institutional/commercial center and mill employee neighborhoods whose fate was and still is tied so closely to that of the "industrial manufacturing system."

The sum of these general areas and discrete pieces of the historic fabric felt to be most important to telling Lowell's story would be designated the Lowell Historic Canal District. This conceptual approach is cartooned in the following figure which identifies the corporate/industrial system in heavy outline and 3-dimensional relief. Key physical determinants and important physical and social consequences are mapped as two dimensional areas using light ink lines.

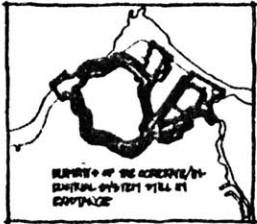


More specifically, the commission's preservation plan should aim at identifying and saving those pieces of the historic fabric which show:

1. Urban form as dictated by industrial needs: this includes location of various activities and the juxtaposition of use and scale
2. Evolution of the factory as a building type
3. The development of energy systems for powering industry: includes hydropower/steam/gas/electricity
4. Symbols of an industrial society. This includes clock towers, chimneys, name plates, engravings, cogwheels, machinery, railroads spurs, trains key mill yards, examples of the management/worker hierarchy
5. Ethnic Heritage as expressed in the physical fabric: includes housing, restaurants, and clubs

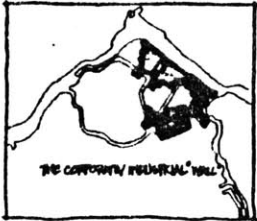
Determination of the Historic Area

Six discrete categories of physical zones have been identified for possible inclusion in the historic district where the bulk of the preservation effort will take place. These include:



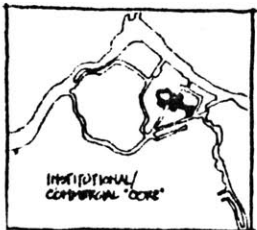
Remaining pieces of the corporate/industrial system:

Includes dams, locks, canals, gatehouses, turbines, tailraces, the mills, machine shop and all corporate housing. The hydropower system and the mill complexes and the boarding houses which sheltered the workers are so closely interrelated that they should be preserved as a unit.



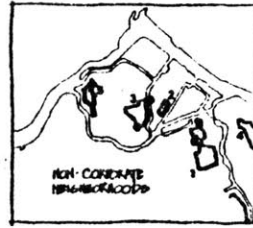
Area once occupied by the Corporate/Industrial Spine

The mills, machine shops and corporate housing once formed a "wall" enclosing the city center and forming the famous "Mile of Mills" view along the Merrimack. While large portions of the spine have been demolished, enough remains to clearly show the way in which the needs of the industrial process dictated the urban form.



The Institutional/Commercial Core

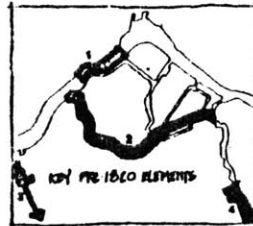
Merrimack Street retains its 19th century character. The corner of Dutton and Merrimack was the heart of town with mills on 3 sides.



Non Corporate neighborhoods

The corporate-industrial system brought about the development of several uniquely different residential areas in the city:

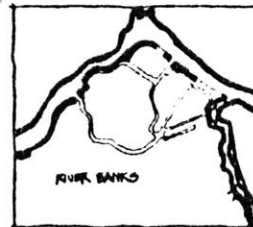
1. Chapel Hill: Middle Class (1830's/1840's)
2. Worthen Street: Early worker housing
3. The Acre: immigrant tenement housing
4. Belvidere: Upper Class mansions
5. Pawtucket/Wannalancit/Clare Streets includes pre-1820 farm houses, upperclass Victorians, early 20th century workers neighborhood.



Key Pre-1822 Elements

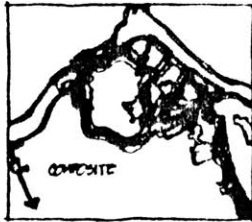
A combination of physical site characteristics contributed to Lowell's creation as an industrial new-town:

1. Pawtucket Falls - a 30+ foot drop in the level of the Merrimack River
2. Pawtucket Canal - Adapted to become the backbone of the power canal system
3. Middlesex Canal/Village - the link to Boston's distribution centers
4. Wamesit/Whipple Area. The industrial forerunner. The Whipple Powder Mill is the oldest remaining industrial building in the city, the Wamesit Canal is one of the oldest and best preserved power canals in New England.



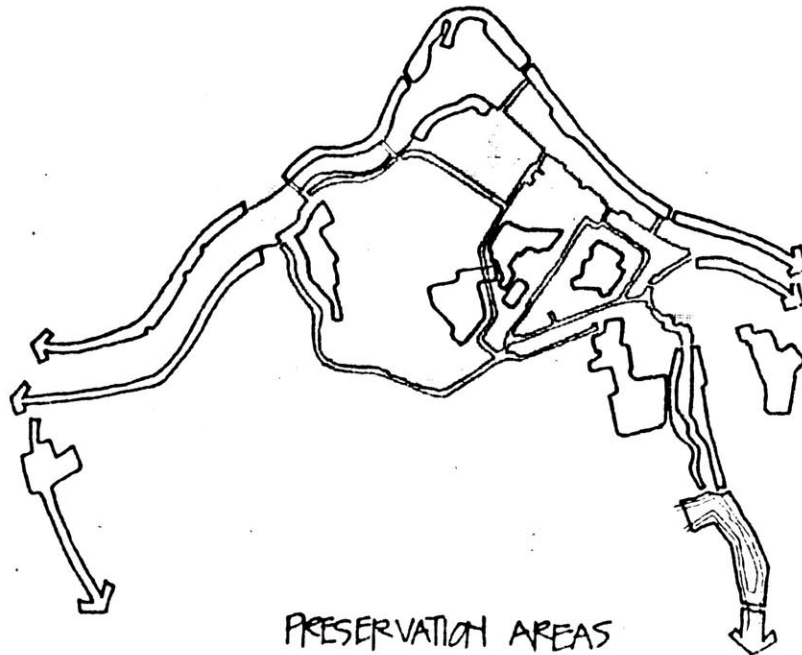
River Banks

The Merrimack and Concord River banks comprise a unique resource. In addition to recreational potential, the banks offer access and views to much of the remaining remnants of the original hydrological infrastructure



A preliminary preservation area

Each of the areas discussed above was overlaid on one another realizing the composite diagram shown to the left. At a minimum it is proposed that a "base preservation area" be a part of any individual Park alternative. This area, shown screened in the large diagram below, included pieces of the corporate/industrial system still in existence, the old corporate/industrial spine (actual area adjusted to align with new street configurations), and that portion of the historic institutional/commercial core around the corner of Merrimack and Dutton Street. In addition to the base area, Figure __, includes remaining historically significant areas, any of which can be added to the base plan, in tailoring a preservation plan to a given conceptual alternative. This process is followed in determining the preservation component of each Alternative in Section III of this report.



PRESERVATION AREAS

- Base Preservation District
- Additional Areas Worthy of Preservation

PRESERVATION MECHANISMS

Major issues related to developing a preservation plan once the area and the individual elements in the historic scene have been identified include identification of preservation mechanisms, and an analysis of their cost and effectiveness. The Phase I Report includes a detailed discussion of the range of potential mechanisms available for preservation. This section reorganizes in summary fashion that material into the following three general categories which define three scales of involvement at which Lowell's historic resources might be directly managed and preserved.

Legal Controls

Establish passive legal restraining orders to preserve and/or restore specific notable characteristics, as new development takes place, either in the public or private sector. Examples include:

- o "Floating zones" to protect miscellaneous important structures outside the designated "canal district."
- o Establishment of a district with designated environmental management controls.

Funding Assistance

Provide funding for those elements of the environment which have preferred status as to their historic/visual importance particularly in regard to key restoration projects, facade easements, landscaping, and relocation costs. Examples include:

- o Grants - to public and private sector
- o Revolving loan pool to private sector
- o Tax Abatements to private sector

Active On-going Involvement

Active involvement in managing key sites within the District particularly with regard to allowing the facility to be open to the public. Preservation of the site is assured by virtue of the fact that it is developed as one of the parks interpretive nodes.

Examples include:

- o Fee acquisition and direct control of management and operation
- o Long Term Leasing
- o Cooperative agreement with present owners operating the facility.

major canal network, portions of the Boot Mill and an example of a boarding house. Other sites will be added, depending on which alternative is chosen for further detailing in Phase III. The creation of a historic park and the creating of specific nodes will act as a catalyst to related private development which can potentially preserve the resources through reuse.

**DEFINING A BASE
PRESERVATION PLAN**

Once a final historic preservation area is determined, the goal of the preservation plan is to 1) protect the setting and 2) preserve key elements of the historic fabric within the district as well as significant discrete historic resources lying outside the district.

Legal Controls

The Base Preservation Plan would establish a set of legal constraints applicable within the district. Some of these constraints would apply to the entire district while others would be tailored to preserving the characteristics of individual sub-areas comprising the district. It is possible for these controls to be appropriately enacted. The city could enact design and development controls within the district or the district could define the geographical jurisdiction of a state level environmental management commission. A more detailed discussion of environmental management occurs in Section IV.

Funding Assistance

Some pieces of the historic fabric are so important to the preservation and interpretation of Lowell's heritage that funding assistance should be provided if necessary to insure their preservation. These key structures to be accorded this "preferred status" will be identified in Phase III.

**Active On-Going
Involvement**

Finally the Base Preservation Plan insures protection of key resources by developing them as interpretive sites within the park. At a minimum these will include the locks, canals, gatehouses and dams of the

Interpretation

THE STORY

There is nowhere else in the entire United States where people can witness the monumental, fascinating and inspiring story of the establishment of America's great industrial cities. Nowhere else can the forces of nature and economics that gave rise to those urban societies be better demonstrated than at Lowell, Massachusetts.

The concerns of the founders and the workers, and their values are startling.

The message is the courage, technological brilliance, and (sometimes overzealous) exploitation of resources (both human and material), emergent in and around Lowell.

Lowell was a novel, and radically different model from 18th Century America's way of living, working and thinking about one's place in life. In the space of several decades, one generation, an entirely new system for production, marketing and distribution of goods, housing, ownership of property, and the significance and place of Lowell in the region and the rest of the country was altered. Lowell, and the rest of our cities, have never been the same since.

Technology and Hydropower

Lowell has many stories to tell. One of the principal goals of an Urban National Cultural Park is to find a means to allow that to happen. Among these stories is the explanation of how hydropower and the conception of harnessing the vast resource that is represented in Lowell's geographic location at the junction of the Merrimack and Concord Rivers and the 30+ foot change in water level from one end of the city to the other, was exploited by the 19th Century visionaries, Francis Cabot Lowell, Nathan Appleton, Patrick Jackson, Ezra Worthen, Paul Moody, Kirk Boott, and James B. Francis. There are several major areas where visitors, and particularly students, will have a chance to become involved in the presentation of interpretive programs focused on the natural resources of Lowell, such as the generation of electricity; the use of locks; and other key issues.

Free Enterprise and Capitalism

Lowell was the first major example of a city devoted primarily to industry, where resources were owned and decisions as to the city's future were arrived at, at the hands of corporations. Acting on motivations of seeking profit, these men decided to invest in the establishment of a series of what was, at the time, huge organizations for the manufacture and distribution of textiles. Big business, speculation, and management planning were all new concepts. The morality and trade-offs of exploitation were concepts that were initially explored then without any of the social history we have since acquired. How did they make their decisions then? How do we arrive at solutions today?

Working and Living in an Industrial City

Why do people work? Why work in Lowell? What place did work have in people's lives then? Today? What were the expectations, concerns and sources of satisfaction or pride then and today? Lowell served as a forerunner of our entire industrial society, and the models of occupational roles, housing, and company-dominated social structure which we now know so intimately, began here. Much of the physical fabric that supported that society can be seen as a diagram. The size, location and style of buildings reveal much about the attitudes of those who controlled and were in turn controlled by the Mills. The dramatic upheaval of social life caused by the influx of new workers; the transformation of farmworkers and craftspeople into factory operatives; the substitution of corporation-run boarding houses; and the replacement of family life with the congregate living arrangements of the workers, all demanded that new social institutions emerge to provide emotional and spiritual support for the population. From housing for the operatives to owner's dwellings, the pattern for a society can be easily seen as a diagram. It is hard today to

Immigration and the
Settling of a City

recognize what a shift of values this was. An Urban National Cultural Park may be able to provide some of that perspective.

Lowell could not have been established without a ready supply of manpower to build and operate the mills. This manpower came from many corners of the world and represented a key resource for the Lowell model. From farm girls to immigrants from Greece, Poland, Italy, Ireland, Germany, Lithuania, France, Canada, Scotland, and England. How they settled in, adapted old ways to new situations, what they contributed, and how they have maintained values and traditions throughout the last 150 years, is also part of the Lowell heritage.

BASIC
ASSUMPTIONS

- o An attempt to restore, redevelop, preserve or maintain the physical assets of Lowell cannot occur without a substantial re-awakening and development of appreciation for the historical significance of those resources which previously and currently describe Lowell and the Canal District.
- o The significance of Lowell's physical and cultural heritage, if it is to be appreciated by those other than architectural and industrial historians, must be viewed holistically. That is, the intertwined relationships of the evolution of the economic, industrial, cultural and social fabric must be seen as one piece.

It is because Lowell continues to retain substantial facets of these elements that the potential for a truly special, broad and comprehensive interpretive program exists.

- o The most emphatic way to generate appreciation for Lowell's past, among potential sponsors, developers, residents and visitors, is to portray the way Lowell's past is relevant to today, and the way we may face tomorrow.

One demonstrable strategy for doing this is to create a network of programs which reach out to a broader public, through formal and informal means, to bring the remote concepts of government, finance, technology and natural resources, down to the more easily understood ideas about decisionmaking, personal gain, invention and the limits of nature.

Because people are diverse, these programs should be constructed to offer many ways to relate to the messages portrayed, and should be accessible to those with serious, focused interests as well as the casual visitor.

- o One method for describing this educational network to ourselves, to the potential sponsors and those who might visit an Urban National Cultural Park, is to relate it to the rather broad and expansive idea of "An Educative City." That concept has the range and generality sufficient to embrace almost any program and so it has been necessary for those planning the LUNCP to identify which elements of an interpretive program (Technology and Hydropower; Free Enterprise and Capitalism; Working and Living in an Industrial City; Immigration and the Settling of a City) might best be accomplished under the LUNCP auspices, and which would not be able to come into being were it not for the multi-dimensional planning, development and administrative capabilities of some entity such as an Historic Canal District Commission.
- o The elements of an Educative City are meant to be the kinds of offerings that contribute to make living and working in Lowell more meaningful. It includes ways to make the physical environment more understandable and appreciable to those who use it. Students doing a project for school, housewives shopping, elderly finding a way of remaining a part of the city's life all would benefit from such a program.
- o New institutions that bridge the traditional gaps between education, social service and recreation can be invoked, and joint-use programs and facilities established to meet citizens daily needs. . . both spiritual and material. Programs for those with special needs, job training programs, cultural arts centers, and a wide array of educational offerings could all take place under an umbrella such as the Educative City.
- o Many of these elements would be attractive enough to give rise to visitation to Lowell by others. In addition, special attractions and interpretive programs would be developed specifically to attract children and adults to visit Lowell, individually, in groups and as families.

We have tried to portray as program options in the six alternatives which follow, those elements which we feel are most likely to contribute to an integratable and coherent group of educational and cultural programs.

APPROACHES

Numerous mechanisms exist for invoking specific Park interpretive programs. They fall into four categories:

- A. Provide a clear and appealing Thematic Scheme which describes the reasons for the founding of Lowell and the technical, economic, social, political and physical attributes which make it such a key development in the emergence of an industrial society.
- B. Make the city environment more legible. Examples of projects in this category would include the publication of maps, and institution of historic markers at appropriate sites; the restoration of now-defunct or deteriorated elements of the architectural fabric of the city; development of informal exhibits at street-corners; lots and storewindows.
- C. Encourage the use of the city as a learning/teaching resource. Implicit in strategies which attempt this goal is the encouragement of joint-use and other collaborative ventures among individual institutions. Some of the programs which would occur in this vein would be the opening up of certain factories and craftsmen's studios, and the establishment of tours, audio-visual programs; large-scale models and demonstration devices, and other techniques for explaining what did/does go on in these environments. Studies and projects involving the colleges and universities in the architecture, sociology, musical heritage, land-use, and even art could be accommodated. Classes, field trips, and programs for younger children in studies of ecology, water-power, physics, math, and so on could be designed and spaces, teaching aids and facilities provided.
- D. Engage citizens in the establishment and interpretation of activities related to the Park. The most effective programs will be those that make use of the talents, interests and sense of appropriateness of the people in Lowell. If the Park's interpretive programs are to feel relevant and not become a source of antagonism to the community, many of the programs should be of, by and for Lowell citizens. Local radio shows featuring local figures; senior citizens coming in to an elementary school class once each week for a storytelling hour of "the way it was;" local people acting as interpreters at their "previous" job; merchants sponsoring mini-exhibits; establishment of mini-courses taught by locals to both locals and visitors in crafts, ethnic cooking or music or dance, and obviously, encouragement of events that bring people together such as Heritage Week.

Development/Use

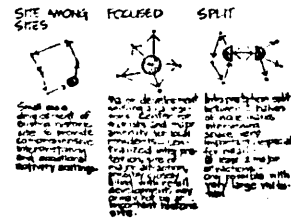
BASIC ASSUMPTIONS

Our Phase I and II investigations have revealed a set of policies, approaches, and considerations which we feel should be integral to each development alternative. Together these assumptions form a conceptual base on which Master Plans can be developed.

1. The development/use plan is the actualization of preservation, interpretive and economic objectives.
2. Lowell's physical form naturally zoned the development of any park into two components, a walkable, imagable downtown segment and an outlying segment tied to the canal system and water related natural features. Transportation loops readily conform to these two zones.
3. The Park should make maximum use of the historic resources in developing interpretive experiences (i.e., the city as exhibit).
4. Certain aspects of Lowell's environment are so integral to understanding its history that they should be preserved and reinforced in any development scheme. These include:
 - o the canal network
 - o the corporate-industrial spine forming the "mile of mills" and encircling the center of the city.
 - o the Dutton Street/Merrimack Canal axis which includes the historic gateway to the

city, the first power canal built as part of the industrial system, and the classic vista which ties the mills and corporate housing together with the commercial and institutional center of Lowell.

- 5. The Lowell Heritage State Park, The Lowell Museum and ongoing city efforts are the basis for any additional park development resulting from federal investment.

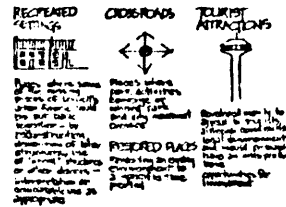


- o Provide a home base for visitors
- o Re-use vacant mills
- o Provide central access to various ways to get around park
- o Create a magnet for potential new retail and commercial development

Three conceptual approaches to the relationship of the primary node to the rest of the park are shown in the diagram to the left.

Second Order Node

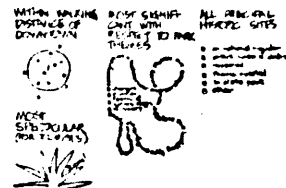
This scale of interpretive center does not provide a complete interpretive experience, rather it might pull together several interpretive themes or act as major focus for a single theme. Important considerations include the need to provide:



- o Places to recreate the look and feel of a previous time
- o First, second, and third bases for tourists
- o Integration of visitor facilities with needs of local people
- o Points of orientation in the city

Several examples of sub-nodes are conceptualized in the diagrams to the left.

Sites



Individual historic sites are the base component of the park, and should be interpreted by some means. It is important to:

- o Illustrate thematic concepts
- o Connect with scale and feelings of former eras
- o "Hands on" involvement with old mechanisms and buildings.
- o Integrate tourist/local needs
- o Preserve historically important structures

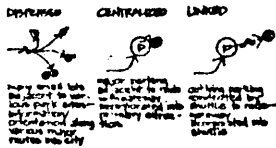
Conceptual approaches to determining which sites should be included in the park are shown to the left.

PROGRAM ELEMENTS

Park Development and use can be broken down into the following key elements:

Entry

Entry refers to the initial contact with the park and includes: access routes, parking, initial orientation and connections into the park system. Important considerations include the need to:



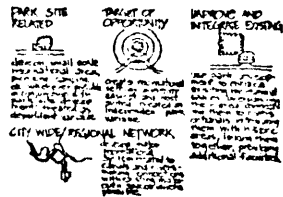
- o Minimize confusion, disorientation in approaching park
- o Maximize ease of mode change
- o Tantalize--heighten expectations about the park as people approach it
- o Welcome visitors with pleasant or exciting experience
- o Inform about basic purpose of park and organization

Examples of three conceptual approaches are shown in the diagram to the left.

First Order Node

This is the principal activity focus for the park where a comprehensive interpretive experience is available. Important considerations include the need to:

- o Realize change of sufficient scale to make an impact on image and environment of Lowell



- o Improved access to water and availability of water related activities
- o Additional attractions for visitors to Lowell area
- o Organized recreation facilities in local neighborhoods
- o Regional recreation in Lowell metropolitan area
- o Links between existing facilities

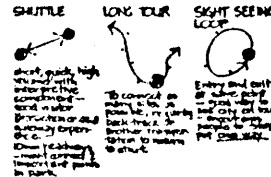
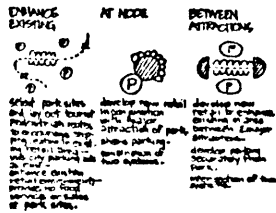
Several approaches to exploiting recreational potentials are shown to the left.

Potential Related Development

Public investment in park facilities could attract significant related public and private development. They might include the following:

- o Educational program facilities for the public school system developed in conjunction with interpretive nodes
- o A comparative cultural institute connecting university level activities and research with the park program
- o Private retail and other commercial development in conjunction with major park attractions
- o Private housing development encouraged by park related environmental improvements

The diagram to the left illustrates conceptual approaches to locating one of these types of related development. Logical locations for this induced development are indicated in the various alternatives presented in Section III.



This is undoubtedly the most imaginable transportation mode in the park, offering not only a means of getting from site to site but also a powerful interpretive experience. The barge system should:

- o Connect various sites by water
- o Reinforce canal system structure in minds of visitors and residents
- o Celebrate water, generate water oriented activities, interaction
- o Create an active, exciting attraction for tourists
- o Interpret Lowell's hydrosystem

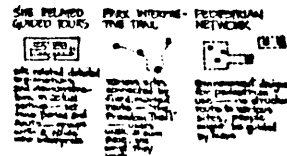
Three conceptual route configurations are shown in the diagram to the left. These typical arrangements would apply equally to other transportation modes such as buses and trolleys.

Pedestrian Movement

Given the objective of making the city the exhibit, pedestrian routes and zones should be an important part of any alternative. The visitors experience should include:

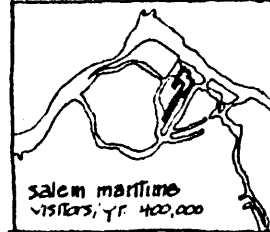
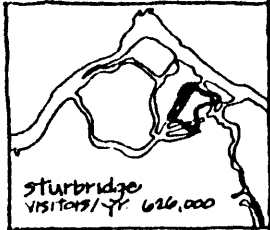
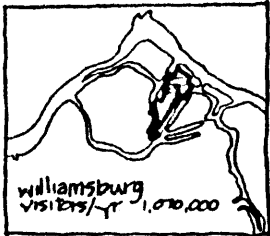
- o Slow scale of movement through the park--time to think and look at a pace closer to that of the 19th Century.
- o Ways to gain personal contact with feel of Lowell's environment
- o Informal way to see city--ability to explore, stop, go when wanted
- o Alternative linkages to important park sites
- o An urban "nature trail" to point out detailed effects of growth, change

Various concepts to designing conceptual pedestrian interaction pedestrian movement are shown to the left.



Recreation

In addition to Lowell's historic resources there are numerous recreational opportunities which should be considered in the development of the park. Opportunities include:

COMPARABLE SCALE PROJECTS

A number of urban projects which are comparable in some ways to development concepts under exploration for the Urban Cultural Park were investigated in Phase II. The diagrams to the left show how some of these projects compare in physical scale to the City of Lowell. Each of these represents a walkable interpretive experience which have been successfully developed in other parts of the country. While these are not direct precedents for Lowell they do suggest reasonable limits to pedestrian oriented park areas.

Whether or not they are located in large urban areas, each historic "park" demonstrates an ability to attract a relatively high level of visitation.

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New castings of "medium spears".